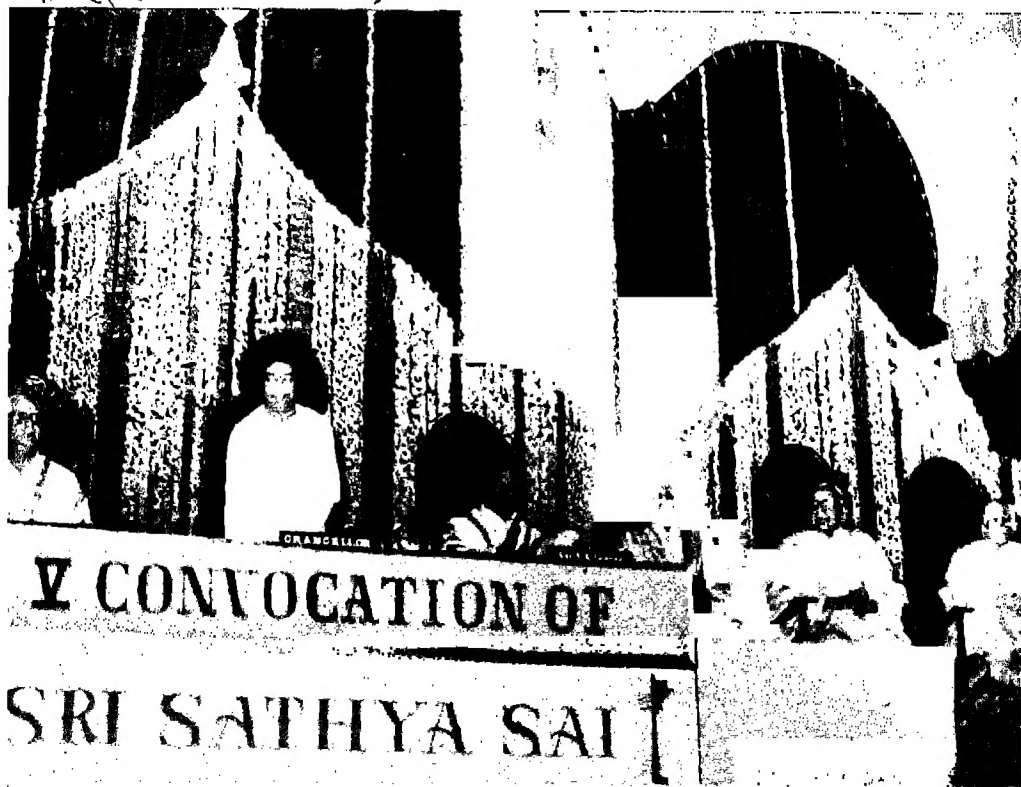


University News

DECEMBER 23, 1986

Re. 1.00



From left to right: Dr. S.N. Saraf, Vice-Chancellor, Bhagavan Sri Sathya Sai Baba, Chancellor, Shri S.B. Chavan, Chief Minister of Maharashtra who delivered the Convocation Address, Mr. Justice P.N. Bhagwati, Chief Justice of India, Prof. V.K. Gokak, former Vice-Chancellor and Shri Indulal Shah.

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Editor :
SUTINDER SINGH

A Nation At Risk

D. P. Verma*

In August, 1981, the U.S. Federal Government created the National Commission on Excellence in Education to make a report on the quality of education in America by April of 1983 i.e. within 18 months of its first meeting. The Commission was headed by David Pierpont Gardner who was then President of the University of Utah and President-Elect of the University of California. Besides the Chairman, the Commission had 17 eminent educationists of the country as its members. The present article attempts a brief review of the report of the Commission.

The National Commission was created because of the widespread public concern that there was something seriously amiss in that country's educational system.

It may be pertinent to mention here that in the federal structure of the U.S.A., the Federal Government since 1787 has been substantially supplementing State, local and other resources to foster key national educational goals. In this context, the controversy, often raised in our country on education being a Concurrent or State subject appears to be so short-sighted. Our obvious pre-occupation is with power and patronage; we are far less concerned with 'goals'.

In the Report, the Commission observed: "Our Nation is at risk. Our once unchallenged pre-eminence in commerce, industry, science and technological innovation is being overtaken by competitors throughout the world". It is interesting to note that the title of the Report itself is, "A Nation At Risk: The Imperative for Educational Reform". The Report has also been described, "An Open Letter to the American People", so that the problems discussed therein could be understood and corrected both by the people of that country and those who have public responsibility in the matter.

Among other things, the Commission's charter contained the following specific charges:

- assessing the quality of teaching and learning in public and private schools, colleges and universities;
- comparing American schools and colleges with those of other advanced nations;
- studying the relationship between college admission requirements and student achievement in high schools;
- identifying educational programs which result in notable student success in college;

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Kurukshetra.

- assessing the degree to which major social and educational changes in the last quarter century have affected student achievement; and
- defining problems which must be faced and overcome if the course of excellence in education is to be successfully pursued.

The Commission at the outset wrote: "We report to the American people that while we can take justifiable pride in what our schools and colleges have historically accomplished and contributed to the United States and the well-being of its people, the educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people. What was unimaginable a generation ago has begun to occur—others are matching and surpassing our educational attainments". The Commission is of the view that the mediocre educational performance that exists today has been responsible for the squandering of the gains made earlier. In a scathing criticism of their education system, it has observed: "Our Society and its educational institutions seem to have lost sight of the basic purposes of schooling and of the high expectations and disciplined efforts needed to attain them".

After an indepth study and analysis of the views presented by the experts on a variety of educational issues, testimony of the administrators, teachers, students, representatives of professional and public groups, parents, business leaders, scholars and the like, the Commission stated that on international comparisons, American students in many tests did not compete well with those of other industrialised nations, that some 23 million American adults are functionally illiterate by the simplest tests of everyday reading, writing and comprehension, about 13 per cent of all 17-year olds in the United States can be considered functionally illiterate and among minority youth this may run as high as 40 per cent, that "the average graduate of our schools and colleges today is not as well educated as the average graduate of 25 or 35 years ago", that over half the population of gifted students do not match their tested ability with comparable achievements in school, that there is consistent decline in recent years in the teaching and learning standards of many important subjects like English, Physics, Mathematics etc. The Commission pointed out: "Business and military leaders complain that they are required to spend millions of dollars on costly remedial education and training programs in such basic skills as reading, writing, spelling and computation". Even more appalling revelations on the ability of the recruits in many other important

and vital organisations and departments were made and added: "More and more young people emerge from high school ready neither for college nor for work".

In their findings, the Commission reflected on four important aspects of the educational process: content, expectation, time and teaching. After examining various patterns of courses offered and taught in the educational institutions, it observed: "Secondary school curricula have been homogenized, diluted and diffused to the point that they no longer have a central purpose. In effect, we have a cafeteria-style curriculum in which appetisers and desserts can easily be mistaken for the main courses". The amount of homework for high school seniors has decreased—two-thirds doing less than one hour a night, and grades have risen as average student achievement has been declining. (Perhaps, the Indian students and teachers would draw a lot of consolation from this finding of the U.S. Commission and retort that people here in our country have been unfair in levelling unnecessary charges against them of doing less than what was required of them). Again, according to the Commission, time spent on courses in Mathematics, Biology, Chemistry, Physics, Geography, starting in grade 6 in many industrialised nations is about three times that spent by even the most science-oriented U.S. students. It also stated: "Minimum competency examinations (now-required in 37 States) fall short of what is needed, as the "minimum" tends to become the "maximum", thus lowering educational standards for all." Another important finding of the Commission was that "too few experienced teachers and scholars are involved in writing textbooks". And so publishers do the job to ever-lower reading levels in response to expected market demands. The Indian educational scene reflects the same trend—the only difference being that we do things cheaply.

The Commission pointed out: "The American students spend much less time on school work and home work and the schools are not doing enough to help students develop either the study skills or to spend more time on school work. In English and other industrialised countries it is not unusual for academic high school students to spend 8 hours a day at school, 220 days per year. In the United States, by contrast the typical school day lasts 6 hours and the school year is 180 days".

As regards teaching, the Commission's finding was that not enough of the academically able persons were attracted to teaching; too many teachers are being drawn from the bottom quarter of graduating high schools

and college students". It has also been found that the teacher preparation programmes are inadequate and need substantial improvement.

With a view to strengthening of the foundations in the 4 years of high school graduation programme, the Commission recommended that, at a minimum, all students should undertake the study of Five New Basics — 4 years of English, 3 years of Mathematics, 3 years of Science and 3 years of Social Studies and one-half year of Computer Science. Considerable stress has been laid on more time to be devoted to learning the New Basics so that there is more effective use of the existing school day, or a lengthened school year. Steps to do so have been adequately spelled out. For the college-bound, 2 years of Foreign Language in addition to the Basics has been strongly recommended. The Commission has given the broad outlines of the contents of the courses in each of the subjects of study, as also the aims and objectives to be kept in view.

Secondly, the Commission recommended: "schools, colleges and universities adopt more rigorous and measurable standards and high expectation for academic performance and student conduct". The universities and colleges have been asked to raise their requirements for admission. A good deal of emphasis has been laid in helping students do their best educationally with challenging materials "in an environment that supports learning and authentic accomplishment." Again various steps have been elaborated to achieve the objective contained in the recommendation.

The Commission has greatly emphasised that persons preparing to teaching should be required to meet high educational standards and should be able to demonstrate competence in an academic discipline. One of its very important recommendations is that salary, promotion, tenure and retention decisions for teachers should be tied to an effective evaluation system that includes peer review so that superior teachers can be rewarded, average ones encouraged and poor ones either improved or terminated. (In contrast, in our country the academics fire vociferously demanding automatic promotions through what is called a 'running-grade', irrespective of the quality and ability of a teacher).

The U.S. Commission earnestly believed: "Citizens across the Nation hold educators and elected officials responsible for providing the leadership necessary to achieve these reforms and the citizens provide fiscal support and stability required to bring about the reforms we propose". It also said, among other things, that for implementing its recommendations, "the Federal Government has the primary responsibility to identify

the national interest in education. It should also help fund support efforts to protect and promote that interest. It must provide the national leadership to ensure that the Nation's public and private resources are marshalled to address the issues discussed in the report". Turning to the parents and students, the Commission observed: "Finally, help your children understand that excellence in education cannot be achieved without intellectual and moral integrity, coupled with hard work and commitment".

The striking feature of the Report is that it is a very matter-of-fact document, devoid of clichés and hyperboles. It has put its fingers on the pulse and has said: "the system aileth here and here." □



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Monitoring : Its Role and Mechanics in Examination Management—III

N.L. Mishra*

13. Despatch Answer Books to the Examiners

If the answer books are despatched to the examiners in time, the receipt of awards and declaration of results too can be expected in time. For a timely despatch of answer books it is to be ensured that:

- (i) examiner-wise allotment has been done well in advance,
- (ii) the difference between the date of receipt and that of despatch is minimum possible, not more than three days in any case,
- (iii) all the entries pertaining to the despatch of answer books are promptly made in the despatch register,
- (iv) answer books bundles are actually booked at Railway station/Transport company on the same day on which the bundle has been prepared, and
- (v) date given to the examiner for submitting the awards is mentioned in the despatch register. Such dates may be arrived at by keeping in view the period likely to be taken in transit and number of answer books despatched to a particular examiner.

If the despatch registers are properly maintained, these can form basis for monitoring the receipt of awards and calculation of delays on the part of examiners, if any. The Officer-in-charge of despatch section should submit daily despatch report to the monitoring cell in a prescribed proforma. This proforma can have columns for name of paper, date of commencement of examination, number of centres involved, number of centres of which the answer books have been despatched and number of those centres from where the answer books are yet to be received.

14. Preparation for Central Assessment Programme

The difficulties faced by the universities with regard to the assessment of answer books are increasing day by day with the phenomenal increase in the number of students. In such circumstances, specially in big

universities, the central evaluation of answer books is the only method for time saving and early declaration of results. In this system the examiners are called to a particular place for assessing the answer books. Since the number of examiners called for central assessment may be in hundreds per batch, proper planning in this area is also a must. The organisers have to ensure that the answer books are processed in time and made available for assessment and no examiner has to stay even for a day more than required. In fact, the programme is a crucial factor on which the success of organisation of central assessment depends. The following points may invariably be kept in view while drawing up the programme for central assessment:

- (a) Time schedule (span) for various examinations.
- (b) Number of registered candidates in each examination.
- (c) Number of examiners required for the assessment.
- (d) Seating capacity of the building where assessment is to be organised.
- (e) Collection of answer books from examination centres.
- (f) Optimum number of scripts to be given to each examiner for assessment per day and also for the entire duration.
- (g) Optimum duration of stay for each examiner.
- (h) Arrangement for preparation of award sheets if the system of concealment of roll number on cover page is to be followed.

Such programmes should be prepared for each examination at least a month before the actual date of commencement of the central assessment. For convenience the whole programme may be divided into few blocks. Each block may be of seven days' duration. For each examination there may be a separate programme. Thus a set of such programmes should be readily available with all concerned engaged in the process of local assessment.

To review the progress of assessment a system of daily assessment report is necessary for successful completion of central assessment. It is with this progress

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report that the incharge local assessment centre would know about the number of examiners turning up on a particular day and the quantum of work done by them. After taking a stock of situation, additional arrangements if needed, may be made promptly to get the assessment completed in time. This report may prove to be a very effective instrument for monitoring of central assessment. Information can be collected from each room where the assessment work is going on and finally the progress consolidated subject and paper-wise under the headings such as number of candidates registered in the paper, number of examiners called, examiners turned up, examiners not turned up, number of answer books assessed on that day, total number of answer books assessed to date and the balance remaining for assessment.

15. Receipt of Awards from the Examiners

Majority of examiners submit their awards in time. However, in each subject/paper there are some examiners who for one reason or the other, fail to send the awards in time and the result gets delayed for want of these awards only. Monitoring, in fact, aims at expediting the despatch of awards by such examiners. For identification of such defaulters a system of weekly or bi-weekly report is desirable. Needless to mention that such report can be prepared on the basis of despatch register in which due dates for each examiner have been indicated. The report regarding receipt of awards should also mention the date of last paper and tentative date for declaration of result. This information not only provides the basis for fixing priorities but also prompts the officer concerned to take suitable steps such as issuance of reminders, contacting the examiner on telephone or collection of the awards through a messenger. Total number of examiners involved in a particular paper and the number of those from whom the awards have not been received reveal the factual position. Having the factual position in view corrective measures can be initiated.

16. Time Schedule for Declaration of Results

Answer books and the examiners are the two basic ingredients of the assessment. In the traditional system where answer books are sent to the examiners at their residence, both the ingredients are away from the body/unit (The University), responsible for declaring the results. On the other hand, in the central assessment system both, the examiners as well as answer books are available at the same spot. Thus this system has administrative expediency which can deliver the goods and may reduce extra time involved in the time-span

of traditional system/making extra administrative arrangement.

As far as time schedule of tentative dates for declaration of results is concerned, it can be prepared easily even when the answer books are assessed at the examiners' residence. But the element of certainty is not there. Maybe it takes more than expected time in transit, some of the examiners may not send the awards in time or some bundles may get lost in transit. While in central assessment system each and every step can be calculated accurately in terms of days. Experience shows that result of an examination in which the number of registered candidates is about 35,000 to 40,000 may easily be declared in four weeks from the day of last paper. The time consumed in each step may be as under:

(i) Collection of answer books	5-7 days
(ii) Receipt and packet making	3-4 days
(iii) Assessment of answer books (centrally)	6-7 days
(iv) Computer process for tabulation of marks	4-5 days
(v) Checking of computerised check lists	3-4 days
(vi) Preparation of final result and marks-sheets	3-4 days
	<hr/> 24-31 days <hr/>

In a system where time consumed for each step may be calculated so exactly, the dates for declaration of results may safely be forecast and announced in advance. Calculation for the probable dates of declaration of results of various examinations can be done and a chart prepared with the columns such as Name of examination, date of commencement of examination, date of last paper, date of completion of assessment, date of feeding awards for practical examinations, date of despatch of last instalment of marks for theory papers, date for exception report, date on which exception report is to be returned to the computer after checking and date for declaration of result.

17. Collection of Assessed Answer Books

Generally it so happens that the examiners send the awards in time but they take very lightly and act carelessly in returning assessed answer books to the university. This delay affects the revaluation process very adversely. Unless answer books are received neither the scrutiny nor the reassessment is possible. Needless to mention it delays declaration of revaluation result which in turn creates numerous avoidable problems to both — the students as well as to the university

administration. The admission to next higher class or appearance at the next higher examination is, sometimes, directly related to the revaluation results. Thus the issue relating to collection of answer books should also be taken up seriously. The monitoring cell may call for regular reports from the sections concerned on this point. The reports may be prepared/submitted class or subjectwise having number of examiners to whom the answer books were sent, the examiners from whom the answer books have been received back and those from whom the same are yet to be received. The efforts made (reminder, telegram, telephone, messenger) in this direction too may be mentioned with dates. Problems pertaining to collection of answer books do not arise in the central assessment system. However, it is desirable that the assessed packets be arranged so systematically that the required answer books could be picked up within no time.

18. Preparation of Degrees

The process related to preparation of degrees/certificates should be started immediately after the results are declared. In fact, it is such a job which should be taken up in a routine manner and regularly. The process should be positively completed and all degrees related to the examinations of previous year be distributed well before the commencement of next examinations. Whenever this regularity is disturbed a heavy backlog gets accumulated. Such a situation is undesirable as it leads to the erosion of the image of the university. The ardent desire of a student for the degree which he earns after putting hard labour for 2-3 years may easily be understood. Thus the job relating to preparation of degrees should be entrusted to a very responsible officer.

Preparation of degrees involves four steps—printing, writing, checking and distribution. Keeping in view the number of degrees to be prepared and capacity of printing and writing a time schedule for various classes may be chalked out and accordingly the work be got done. It is worth noting that time span should not be decided in accordance with the capacity of printing or writing, rather these things be managed in accordance with the time span i.e. the target date by which the work is to be got completed; then and then only the process of degrees would be completed in time i.e. well before the commencement of next examination. The progress report may also be obtained in a format made on the lines of columns drawn in the time schedule.

19. Disposal of Cases of Unfair Means

The cases of use of unfair means by examinees are dealt with under the provisions of specific ordinances.

Such answer books are sent to the university under a separate cover along with the report of invigilator, remarks of Centre Superintendent and material recovered from the examinee. Disposal of such cases involves many formalities. Besides, the answer books are assessed with a view to finding out whether the candidate has made use of the material recovered from him. For each case of unfair means summary is prepared and the whole case is presented before a committee, appointed by the competent authority for the purpose. In some cases invigilators and Centre Superintendents are also required to be called for their evidence; the candidate may also be given opportunity for personal hearing. Thus disposal of unfair means cases take a lot of time. Delay in disposal, naturally, affects further admissions, studies of the students involved and their appearance in the next examinations. Thus it is desirable that a time limit is fixed to dispose of such cases and a close monitoring is done regularly. The Officer incharge of the section dealing with the cases of unfair means may be asked to submit a fortnightly progress report for disposal of cases. The statement should have class-wise details such as total number of cases registered, answer books assessed, summaries prepared, number of cases disposed of and the cases yet to be disposed of. With such an exercise the weaker areas of delay may easily be identified and got expedited through special efforts.

20. Disposal of Cases of Scrutiny

Scrutiny involves mainly retotaling of marks. While going through the pages of answer book the scrutinizer, who is duly appointed by the competent authority, also ensures that no question, in full or part, has been left out unassessed. The cases of scrutiny may be disposed of within a short period provided the required answer books are readily available and the required number of scrutinizers turn up to do the job. The main thing to be monitored here is the prompt supply of answer books to the scrutinizers. Persons working in the cellars where answer books are stored and stacked are responsible for picking up the required answer books from the bundles. If the bundles/packets containing the answer books are serially arranged and stacked, picking up of answer books will be easier and less time consuming. Experience shows that the system of maintaining proper stock registers is very useful in this regard. Bundles/packets along with the roll numbers, on from-to basis, are entered in the registers in serial order. Number of absentees is also mentioned. Against the entry of bundles, the serial number of racks in which those bundles have been kept are also indicated. Thus as soon as requisition for any answer book is received the same is first located in the class-wise stock registers and then actually picked out from the bundle.

The scrutiny cases may be processed and disposed of within minimum possible time through systematic stacking of answer books and regular monitoring. Monitoring will not only take care of slackness on part of the staff but also minimise the chances of accumulation of work. For reporting the progress, class or faculty-wise statements can be devised. The information can be submitted under the headings such as date on which result declared, total number of applications for scrutiny, total number of answer books involved, number of answer books supplied and number of applications disposed of to date.

21. Disposal of Cases of Revaluation

Revaluation is a lengthy process which involves many a jobs such as registration of application, supply of required answer books, scrutiny, putting up of fictitious roll number, despatch of answer books to the examiner (other than one who originally assessed), averaging of marks, correction in tabulation register, preparation of revised marks-sheet and communication of result to the candidate. It is worth noting that despatch work of revaluation is a very slow process. In the main examination the despatch work is a one time job. Answer books are sent in lots of 200 to 300 to the examiners. On the other hand the despatch of answer books for revaluation is a continuous process. Sometime the number of answer books despatched to the examiner may be pretty small say 1, 2 or 3 answer books only.

Unless the revaluation work is well planned and ably administered as a time bound programme, no real relief can be provided to the student community. The whole scheme may be planned and implemented in such a way that each step is completed within a stipulated time. Duration (days) may be fixed for completion of each step; at the rate of handling of 500 answer books per day it may tentatively be as under:

(i) Determination of eligibility for registration	1-2 days
(ii) Supply of answer book for revaluation after scrutiny	4-6 days
(iii) Putting of fictitious roll number and despatching for reassessment	3-4 days
(iv) Assessment by revaluator:	
(a) Locally	6 days
(b) Outside	15 days
(v) Averaging of marks	3 days
(vi) Correction in tabulation registers	3 days
(vii) Preparation of revised marks-sheet and communication of result to the applicant	4 days

Experience shows, if proper monitoring is done to expedite the functioning of all these steps, it should not take more than 40-45 days in completing the whole process. In fact, revaluation is such a process which cannot be expected to be completed in time without proper monitoring. In this process different jobs are done by different persons/teams. Of course such a distribution is planned just to minimise the chances of leakage of secrecy and expediting the process. The Officer-in-charge of revaluation has to perform role of a Coordinator among different teams engaged in different steps/assignments. On the basis of information received from various teams, he is supposed to prepare a consolidated statement showing disposal of applications for revaluation. The statement can be prepared class-wise under the headings such as date on which result was declared, total number of applications received for revaluation, total number of answer books involved, number of answer books received after scrutiny, number of answer books reassessed, number of cases in which corrections made in tabulation registers and the number of applications finally disposed of.

Review (Analysis)

While reviewing the progress on the basis of feedback received in the form of information on prescribed proforma, the following points may be kept in view:

1. Target or total volume of work to be done.
2. Total number of staff engaged in the work.
3. Working capacity (of individual and group).
4. Daily optimum output.
5. Time schedule prepared for completion of various assignments.
6. Urgency, if any.

The basic object of reviewing should not be merely knowing as to what has been done so far, it should rather be to know what ought to have been done by now and what remains undone. For this purpose the following formula may be applied in all cases of monitoring.

Total quantum of work	Number of days taken	The amount of work which ought to have been completed by that date.
Total duration (in days)	x	=

Thus an alert and efficient officer reviewing the progress would concentrate on the following aspects:

- (i) How much work ought to have been completed by now.
- (ii) What is the exact remaining quantum of the work to be completed.
- (iii) What are the weaker links in the whole chain.
- (iv) Who among the staff members are responsible for slow speed or less output.
- (v) Is there any uncontrollable external factor affecting the progress adversely?

Needless to mention, the officer reviewing the progress and analysing various aspects should be well-versed with the whole system. It is also desirable that he is plan-oriented, imaginative and innovative. In fact, monitoring and reviewing is an art which can be put to use only by a person who has well developed faculties of imagination and innovation in that particular field. Only such a person would be competent to pin-point the mistakes and suggest the suitable concrete steps for quantitative and qualitative improvements.

Identification of Weaker Areas and Remedial Measures

As soon as the exercise for reviewing or analysis of the progress is over, the weaker area(s) would automatically emerge. Now the question is, how to strengthen those areas and improve the situation so that the work could be completed in time. In other words it has to be seen as to what remedial steps could be taken. The nature of remedial steps would depend on the nature of deficiency leading to inefficiency. Say, if it is found that the main weakness is the slackness of the staff engaged in the work, then the staff concerned should either be replaced by the suitable ones or they should be called upon to improve their efficiency. This can be either through incentive or fear of disciplinary action. In fact, the delay or slow progress may be caused because of various reasons; it may be because of lack of co-ordination, some uncontrollable external factors, paucity of space, restricted mobility, lack of supervision and control, incompetent leadership, absence of motivation, improper communication or communication gap. Sometimes it is the result of miscalculation also; either we overestimate the working capacity of the staff engaged or underestimate the duration actually needed for completion of the given job. If it is so, the time schedules should immediately be suitably amended accordingly. Sometimes timely intervention of higher authorities is desirable for getting the things expedited. In that situation the needful should be done without any loss of time; it is also a part of monitoring.

To sum up, monitoring forms an important part of the modern management techniques. All organisations, whether big or small, follow the system of monitoring these days. For an autonomous body like a university

where each programme is a time bound programme, the importance of a well developed system of monitoring is obvious. Particularly in the management of examinations, its necessity becomes all the more important and manifold. In fact, management of examinations is such a field where all activities are interlinked and inter-dependent and any slip or shortcoming at the initial stage can dislocate the whole process and in the long term affect the academic calendar adversely. The Officer-in-charge of examinations has to ensure that no lacunae are allowed to crop up and each job is completed in time. Through monitoring he can identify the weaker areas and take remedial measures well before it may cause any serious damage. Thus the officer monitoring the examination work has to perform the duties of a doctor who first diagnoses the disease and then prescribes the line of treatment.

[Concluded]

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Applications are invited for the post of Director-Head at University Computer Centre.

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The person appointed will have to undertake the teaching work when the relevant courses will be started in the University.

Candidate already in service of Government/Senior Government or Public Sector undertaking/Organisations should send his application through his present employer.

Applications on plain paper containing particulars, such as Full Name, Address, Date of Birth, Qualifications, Experience alongwith copies of testimonials, present position, etc. should reach the undersigned on or before 10-1-1987.

KOLHAPUR.
Date 9-12-1986

S.R. Salokhe
Ag. REGISTRAR

Education for Liberation

Hon'ble Shri S.B. Chavan, Chief Minister of Maharashtra, delivered the Convocation Address at the 5th Convocation of Sri Sathya Sai Institute of Higher Learning, Prasanthinilayam on 22 November, 1986. Excerpts :

Our ancient scriptures define education as that which liberates. "सा विद्या या विमुक्तये". Liberation from what? No doubt education should provide the instrument for Liberation from oppression, from wants, from ignorance. But at the same time, it should also help us liberate from the narrow considerations of castes, communities, religions, languages and even nations. Education is a means to broaden the vision and see national issues in a broader perspective. It should enable us to rise above petty things and absorb enveloping concepts and ideas from any part of the universe. In fact वसुधैव कुटुम्बकम्—whole world is

Friends, you must feel proud to get an opportunity to receive your academic lessons in this institute of great repute which definitely can claim to inherit the rich traditions laid down by the luminaries mentioned by me earlier. Today is a very important day giving a new direction to your life. Some of you might have completed your formal studies to occupy various responsible positions in different walks of life. Some of you might be thinking of pursuing still higher education. You might be aware that this year marks a great event in the field of education giving it a new direction. This event is the formulation of the National Policy on Educa-

spontaneous national integration and has an open admission policy, with the result that about 50 per cent of its students are from States other than Andhra Pradesh and Karnataka.

The new National Policy on Education has made a number of revolutionary suggestions in the field of higher education. The most important among them is redesigning of courses to meet the growing demand of specialisation, to provide flexibility in the combination of courses, to facilitate mobility to integrate practical experience and participation in creative activities with the learning process. In the new design the foundation course will be an important element of the general undergraduate programmes. In designing foundation course, a special emphasis will be laid on the study of India's Composite Culture so as to foster unity and integrity of the country among younger generations.

Educational system may be visualised as a Pyramid. At the top of this pyramid, there is only a small proportion of people receiving higher education. We must ensure that they are among the best of the world. However, even more important than this is the base of this pyramid. A very large number of children are out of school. Those who are enrolled in schools, drop out of the system because of certain compulsions. We will have to strengthen this base. Universal elementary education to children up to the age of 14 years is our Constitutional commitment. We are committed to ensure that all children in this age-group are provided free and compulsory education by 1995. Since, a number of children will not be able to join full-time formal schools, a large number of non-formal education centres will be opened. It will be necessary

Convocation

a family—was a dream of our ancient Rishis. The tradition is reflected in thoughts of all great thinkers and philosophers of our country, like Mahatma Buddha, Bhagwan Mahavir, Adi Shankaracharya, Sant Dhyaneswar, Guru Nanak, Sant Kabir, Ramkrishna Paramhans, Swami Vivekanand, Rabindranath Tagore, Yogi Aurobindo and Mahatma Gandhi. Today under the guidance of Bhagwan Sri Sathya Sai Baba, this Institute has been endeavouring to foster the same thought which is so essential today to nurture secular foundation of our national polity. This alone will ensure greatness of our nation.

tion-1986 under the dynamic leadership of our Prime Minister Rajiv Gandhi.

The new National Education Policy aims at deriving maximum benefits from the assets already created in the fields of economy and technology and ensuring that the fruits of change reach all sections of the society. At the level of higher education in general and technical education in particular inter-regional mobility has been suggested, so that universal character of universities and other institutions of higher learning is maintained. I am happy to note that Sri Sathya Sai Institute for Higher Learning believes in

to provide special incentives to children belonging to the weaker sections of the society, and particularly girls. In this connection, I would like to cite an example of people's voluntary participation in respect of girls' education in Maharashtra. This experiment is known as Savitribai Phule Foster Parent Scheme about 1.40 lakh girls who cannot complete their education because of poverty, are being helped under this scheme. This experiment has aroused interest in all parts of the country. Universalisation of elementary education should be considered as a mass movement.

Our present educational system is mainly based on the Macaulay's model. Vocationalisation would be a major departure from this system. The scheme of vocationalisation of education recommended by Kothari Commission, however, has not taken roots in our system. We will have to plan realistic projects to make vocational education an integral part of education at all levels, viz. primary, secondary, higher secondary, University and even non-formal and adult education. In Maharashtra we have always been holding and advocating this view firmly. To us, vocationalisation does not mean closing the doors of higher education. There should be a provision of vertical mobility for those who opt for vocational courses. For formulation of the Programme of Action for Vocationalisation of Education in Maharashtra, we have appointed a Committee under the Chairmanship of Dr. (Smt.) Madhuriben Shah. On the basis of the recommendations of this Committee, it would be possible for us to plan a project for Vocationalisation of Education on much more realistic basis.

Talented Youth is the Wealth of our country. We should be able to catch them young and nurture their

talent. The new education policy envisages Navodaya Vidyalayas for talented children—particularly from rural areas. Navodaya Vidyalayas would facilitate these children proceeding at a faster pace. We find that even for such an excellent scheme there has been criticism from some quarters that this scheme is elitist. This is not at all true. On the other hand it guarantees social justice. Children from rural areas and those who do not have capacity to pay for good quality education would have access to such education.

Our Prime Minister Shri Rajiv Gandhi has been emphasizing the need to lay a good foundation for taking the country to the 21st Century. We shall not be able to face effectively the challenges of 21st Century unless we equip ourselves with modern technologies right now. The new National Policy on Education has taken sufficient care of this aspect. But modernisation does not mean a refusal to recognise the importance of moral and spiritual values. With the science and technology acquiring new heights the materialistic view of life is getting more importance. Modern technology and atomic research provide the mankind with immense power of destruction of human race itself. The atomic devices can lead to annihilation of the entire human race. But if it is utilised in right direction and with proper care, it can produce food for the hungry millions and also meet other human requirements. For this purpose the knowledge needs to be combined with humility, reverence and love for the humanity. This reminds me of a quotation from Pandit Jawahar Lal Nehru. And I quote, "Can we combine the progress of science and technology with the progress of the mind and spirit also? We cannot be untrue to science because that represents

the basic fact of life, today. Still less can we be untrue to those essential principles for which India has stood in the past throughout the ages. Let us then pursue our path to industrial progress with all our strength and vigour and, at the same time, remember that material riches without toleration and compassion and wisdom may well turn to dust and ashes".

The new National Education Policy has recognised this important fact and has laid great stress on value orientation of the education system. It has recognised the fact that the political and social life in our country is passing through a phase which poses a danger of erosion of long accepted values. The goals of secularism, socialism, democracy and professional ethics are coming under increasing strain. In our culturally plural society, education should foster universal and eternal values oriented towards the integration of our people. Such value education should help eliminate obscurantism, religious fanaticism, violence, superstition and fatalism. Apart from this combative role, Value Education has to lay primary emphasis on its positive content based on our cultural heritage, national goals and universal perceptions. Students should be able to search unity in diversity in our country; in our culture.

I have already mentioned about redesigning of courses at the level of higher education so as to lay special emphasis on the study of India's composite culture with a view to fostering unity and integrity of the country. We may think of imparting cultural instruction to students engaged in highly specialised science or technical courses so as to give their personality an all-round development. I am happy to note that Sri Sathya Sai Schools

and Colleges are already doing this. It would be a novel idea to develop specialised courses like archaeological engineering, traditional Indian architecture and its relevance in contemporary context in our technical institutions.

The Programme of Action for implementation of new education policy states that on the basis of the analysis of the study of value-oriented education undertaken by the N.C.E.R.T. in collaboration with State Institutes, broad parameters of values with particular reference to their embodiment in Indian heritage would be suggested. It may not be out of place to mention here that the Maharashtra State Council of Educational Research and Training, Pune has already undertaken such project on the basis of the recommendations of the national seminars held at Aurangabad and Simla. The project aims at trying out values to be imbibed by the students; viz., self-reliance, dutifulness, punctuality, dignity of labour, scientific outlook, purity, cleanliness, equality, fraternity, respect for mother, father and teachers; love for nature, fearlessness and sportsmanship. This project, which is being conducted in 58 secondary schools all over the State, will be evaluated at the end of this academic year. The results of this evaluation will be useful in re-designing of courses or changing teaching-learning methodologies at the school stage.

In the coming future we will have to lay more emphasis on research and development. Research and development should be considered as integral part of Higher Education Institutions. No doubt, since independence we have made great advancements in this area both in the field of Science and Technology and also in the field of Humanities and Social Sciences. How-

ever, one finds that research in universities generally is not directed towards finding out solutions to the current problems. This situation has to change. Universities and institutions imparting higher education should have close linkages with the industry and agriculture. In case of applied research in social sciences, the research findings

should be disseminated to policy planners in a form which is immediately useful. In the new policy great emphasis has been given on inter-disciplinary research. It has also stressed the need for delving into India's ancient fund of knowledge and to relate it to contemporary reality. □

Sri Sathya Sai Institute of Higher Learning

(Deemed University)

Prasanthinilayam

1985-86

Highlights

1. All students at the school, undergraduate, postgraduate levels including professional courses are exempt from all kinds of fees.
2. The national Character of the Institute is achieved by opening seven admission centres throughout the country for screening and selecting meritorious and committed students. The students come from Kashmir to Kanyakumari and Kuch to Kamrup.
3. The enrolment in various courses in the three campuses, taken together increased by about 40%. The number of postgraduate and research students in various faculties alone increased from 95 to 200.
4. Two new Faculties of Business Management and Education have been established with accent on value-orientation.
5. Programmes for doctoral research in areas of national significance and local relevance have been stepped up.
6. Students are encouraged to share their thoughts and experiences regarding the implications and relevance of education in human values.
7. The number of working days has been increased through the reduction of winter vacation by fifteen days. Sri Sathya Sai Institute being a residential one, it virtually works on every day excepting two months of summer and fifteen days of winter vacation. Sundays are utilised for co-curricular activities including social service and self-reliance programmes.
8. Students are continuously assessed both in academic and Integral i.e. moral and spiritual items and on that basis all-rounders are selected. All-rounders have to distinguish themselves in fields like duty and discipline, attendance at morning and Campus prayers, behaviour towards teachers, elders and fellow-students, participation in social work and self-reliance programmes, proficiency in sports or elocution or such other extra-curricular activities. Three gold medals carrying also with them a cash prize of Rs. 500/- are awarded to three all-rounders students.
9. Good Behaviour Award has also been instituted.
10. It is proposed to qualitatively improve programmes like the awareness course, integral items of work, social service, self-reliance.

Education for Character

Bhagavan Sri Sathya Sai Baba, Chancellor, Sri Sathya Sai Institute of Higher Learning, Prasanthinilayam, delivered the Benedictory Address at the 5th Convocation of the Institute on 22 November, 1986. We are pleased to publish the full text of this highly elevating address for the benefit of our readers.

I

Education has to make a person the concrete embodiment of the higher Reality, that is the basis of the material universe, of life in the world, of the expanding dominion of the mind, and of the human community. He is the mirror which reflects the Divinity inherent in man, evident in every expression of his character. The process of education has to inspire man to discover the Truth seeking it through the study of the objective world. Fulfilment lies in the awareness of that Truth which, when once known, does not need correction or modification or revision. Education aims at this consummation in a life lived in the atmosphere of unity, devoid of the varied demands of diversity. The educated person knows the interrelation between what appears as distinct.

II

Education must reveal the path which enables man to tap the dormant spring of divinity within, without getting entangled with the mass of created objects. It has to lay stress on spiritual transformation as more fundamental than even moral uplift. The real sign of an educated person is his attitude of sameness towards all. He sees in society the manifestation of Divinity. Education does not lead man from nature to the all-pervading Atma. It leads man to study nature, with the unifying Atmic

outlook. When the powers of Nature are harnessed to narrow selfishness, they recoil on him as plagues. When they are revered as revelations of the Atma, they become beneficial. Education equips man with this insight. The process by which man foregoes his freedom and is bound in the net of desire can never be education. It has to aim at ensuring



Sri Sathya Sai Baba delivering the benedictory address
peace and stability in each country by continuous precept and practice of the basic unity.

After acquiring this sacred vision and inspiration, the adults were moved on into the next stage of life, into society for founding and fostering families. The occasion was marked by a Convocation where they were provided with holy guidelines and reminded of their duties. When the young are at the Gurukul,

with fellow students and teachers, engaged in study, they strive ceaselessly to cultivate serenity, purity and detachment. They try to identify their Truth. For, the stage of studentship (Brahmacharya) sets the pace and decides the fate of the three subsequent stages of householder, recluse and monk.

III

Students ! When you lag behind and fail to achieve success in study and the practice of ideals, your mothers are steeped in agony. The motherland, Bharatmatha, too suffers the same agony a thousand times more, when you lag behind in acquiring moral and spiritual excellence. Students have the responsibility to save both mother and motherland from agony and to confer Ananda instead. He alone can be considered a real student, who has realised this obligation.

Everyone of the leaders and elders you know, administrators and officers, in political and other fields has been, while young, students like you. You have to take their roles later. Do not ignore this fact. You have to help the progress of the motherland by work among fellow citizens through sincere effort and patent example.

IV

What is the meaning of the expression "human progress" ? It means raising the level of moral life and brightening daily lives with goodness and godliness. Life has to be an incessant process of repair and reconstruction, of discarding evil and developing goodness. Paddy grains have to discard the husk in order to become consumable rice. Cotton has to be re-formed as yarn to become wearable cloth. Even gold nuggets have to undergo the crucible and get rid of alloys. Man

too must purify his instincts, impulses, passions, emotions and desires so that he can progress by good thoughts, deeds and words. The individual is valued only on the basis of the level of transformation he has attained.

But, today, the rulers have no capacity to transform the people, nor have the people the authority to transform the rulers. The absence of spiritual vision is the cause for this situation. So, efforts must be directed now to cultivate that vision among the students who will form the citizens and rulers of tomorrow. Students of today must be encouraged to follow disciplined and devoted habits of thinking and living.

V

Students form the foundation of a nation; they are the roots that hold it firm. Their moral stamina ensures a home of peace and an era of joy and happiness. Science and technology have expanded vastly today. Their gifts have made life more comfortable and pleasant. But they have brought with them grief and fear, loss and calamity in far greater degree. More than all, they have bred domination and concentration of authority. The reason is absence of proper discrimination while accepting and utilising these gifts. This is an age of novel civilisation. The emergence of discordant notes has silenced the call of the divine from within man. He is eager to make his life a merry-go-round but it is turning into a painful tangle of troubles. He does not try to discover the cause of this contradiction. Instead, he wastes his years in empty ephemeral pomp and pretence. He is unaware of the value of each passing day. He is caught in the coils of speed and splash-films, planes, radio, video, television etc. He is restless and has to encounter countless worries. Fear

of imminent war or famine has gripped man. Fear while alone at home, fear while on the street! When insecurity prevails, how can man be happy?

VI

The basic reason for this pathetic situation is the spending spree for satisfying sensual desires. To get his child admitted, a middle class employee pays thousands of rupees to the school. He pays lakhs of rupees to secure a seat in a professional college for his son or daughter. He competes with his neighbours in the purchase of gadgets which they parade, with the help of loans or corrupt practices. Technology ruins step by step the character of men. The son secures an LL.B. involving the sacrifice of his parents of their income. He gets no job. So, he decides on a career as lawyer. He has to own a car, though hungry and poor. Thus, truth, justice and morality have eroded everywhere and in every field. Man is no more human.

Students! I exhort you to recognise this tragic situation and dedicate yourselves to the task of promoting the happiness and welfare of the people, and presenting shining examples of truth, sincerity and integrity. Give up the notion that you are undergoing education in order to grab jobs. Convince yourselves that you are earning knowledge leading to wisdom, in order to serve others all your lives.

VII

The advice given by Gurus during Convocations in hermitages is the same :

"Mother and Motherland are more worthy of reverence than Heaven. Your parents are sacrificing their comforts and even

necessities in order to ensure your progress. It is your duty to revere them and make them happy. Engage yourselves in acts that others will respect and not in acts of which you feel ashamed. Honour the elders. Love your native land."

After receiving such directions from the Gurus, students returned home, with hearts heavy with gratitude and sorrow at the departure from the hermitages. The Convocation marked the close of a sweet chapter in life when the ideals to be pursued in later years were implanted. So the leave-taking was fraught with humility and hope. They realised then that life involves both coming together and separation from each other. They engraved in their hearts in golden letters the advice imparted to them on the occasion of departure.

But today, in the very same land, Convocations are polluted by noisy interruptions, disgusting behaviour and demonstrations of disbelief. Man has become so stupid that he has neither fear of sin, nor love for God. How then can he be secure in peace and escape from catastrophe? These two are two eyes for mankind. Without them, man has to totter in darkness, however learned and scholarly he may be. Where can we find students with compassion in their hearts, spreading peace all around, straight and true in behaviour, righteous and virtuous? Individuals who have illumined their innate good nature with such holy qualities and who are eager to be helpful to others are not visible to the eye. So, you have to acquire and develop the practice of Truth, Righteousness and Serenity.

VIII

Do not crave to acquire cultures foreign to ours. We have a treasure

of gold in our Bharath. Why seek it outside? The culture of Bharath is sublime, splendrous, sacred, divine. It can fulfil all your high desires, quench your deepest thirst.

ple and live a very happy and balanced life. That is what I am looking for.

IX

I am on the search, I am on the search

For one who ever clings to moral path

Can tree-cotton fruit ever mango be?

Can any strut cane claim sugar within?

Can pebbles that shine ever candy become?

Let not form deceive; see the nature and judge.

So, students have to cultivate character. The essence of education is humility and obedience. All our students should become ideal students, offer themselves as an exam-

Students! One of the outstanding features of our Institute is discipline. Wherever you go, discipline should follow you as a shadow. If a person does not have discipline, he becomes an animal—Pashu. You should, instead, become master of animal—Pashupati. Our aim in starting this Institute is not merely to give you academic education but, alongwith it, to give you true humility, discrimination, a judicious combination of intellect and intuition leading to human excellence.

You must be aware of the implications of studentship. You have to translate that awareness into actual practice. You have to en-

shrine the experience in your hearts. You must, then, share the joy of that experience with others. Do not allow your minds to get agitated with limitless desires.

First and foremost, render your homes bright by pleasing your parents. If you cause grief to them, your entire life will be soaked in grief and your children, in turn, are sure to sink you in sorrow. Do not be arrogant towards your parents because you have studied a few things. "Consider the Mother as God; consider the Father as God; consider the Teacher as God; consider the Guest as God." Follow these fourfold exhortation with full faith in its validity, derive Ananda therefrom and inspire others by your example, so that the Motherland may progress and prosper. Fulfill this desire of mine, with my blessings. □

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Candidates appearing in Final Degree examination in April/May 1987, may also apply.

ADMISSION TEST : All applicants will be required to appear at a written Test to be held at Jammu, Chandigarh, Delhi and Allahabad on Sunday March 15, 1987.

FOR APPLICATION FORM AND INFORMATION BULLETIN : Write to the Head, Department of Management Studies, University of Jammu, New Campus, Jammu Tawi-180 001, enclosing therewith (i) a Crossed Indian postal Order for Rs. 15-00 drawn in favour of Registrar, University of Jammu, Jammu and (ii) a self addressed envelope (18 cm X 24 cm) bearing Rs. 2-30 postage stamps (and Rs. 2-75, if required by Regd. post).

Application Forms will also be available at the Department Office from December 15, 1986 to January 29, 1987 between 2.00 p.m. and 4.00 p.m. (against I.P.O. only—no cash). Postal requests for form will be entertained upto January 14, 1987 only.

Last date for receipt of completed Application Form—February 2, 1987.

B. N. MEHROTRA
HEAD OF THE DEPARTMENT

Seminar on Language Education in India

A national seminar on 'Language Education in India' was recently organised by the Department of Tamil Studies in Foreign Countries of Tamil University, Thanjavur.

The seminar aimed (i) to go into the problems of language in formal, non-formal and tribal education in India in the context of the new education policy, and (ii) to enable the University and college teachers to acquaint themselves with the latest developments in the fields of language education to review the present situation and to bring suitable changes into the language curriculum.

The seminar was inaugurated by Dr. S. Agasthalingam, Professor of Linguistics, Annamalai University, while Dr. D.P. Pattanayak, Director, Central Institute of Indian Languages, Mysore, delivered the keynote address. He stated that the three-language formula should not be the goal but a strategy especially because India is a multi-lingual country.

About twenty eminent scholars in linguistics and education from all over India participated in the three-day seminar. Research papers were presented by the participants on the themes: 1. Language policies, planning and language education in India; 2. Language in formal, non-formal, tribal and distance education in India; 3. Language options for education in India; and 4. Language education in the new culture of educational technology.

The seminar concluded that Tamil as a regional medium is adequate and should be developed. It was also adequate for the expression of scientific concepts. However English should be continued as an auxiliary language and no time limit be fixed. Linguistic minorities

in Tamilnadu are keen on learning the majority language much more than learning the minority language. Modern technology should also be used to promote Tamil language.

Satellite to Link Varsities

Prof. Yash Pal, Chairman, University Grants Commission (UGC) said that all universities and research institutions in the country would be linked by satellite under the new education policy to help communication and exchange of notes among them. Such links would have to be established within the next two years. He was inaugurating a national seminar of the committee on data for science and technology.

Prof. Yashpal said such a network would enable the scientists to work jointly and have access to various data banks, besides collaborations among universities. Each university

should have a computerised data bank for the purpose.

He said one transponder of a satellite was enough for the entire country, with each university having a microprocessor-based receiver. Besides being cost effective, the network would also be free from the blockades and troubles at the exchanges.

UGC Assistance for Geology Deptts.

The Departments of Geology of the Osmania and Bangalore Universities have been selected for financial assistance by the University Grants Commission (UGC) under its Departmental Research Support Scheme for advanced study and group research effort. The quantum of financial assistance for a period of three years will be Rs. 24.37 lakhs for Geology Department, Osmania University and Rs. 24.95 lakhs for the Geology Department of Bangalore University.

News from Agril. Varsities

Seed Technology Centre at HAU

Haryana Agricultural University has established an Advanced Centre on Postgraduate Teaching and Research on Seed Technology. To be funded by the United Nations Development Programme (UNDP), with the Food and Agriculture Organisation (FAO) as the executing agency, this would be the only Centre of its kind in the country.

The project would serve as the Regional Training Centre for South East Asia and Middle East countries in the field of Seed Technology. The findings of the research conducted at the centre would

directly benefit the region by solving the problems of developing seed industry in India and other neighbouring countries. The expert faculty members from the Centre would serve as consultants in the neighbouring countries.

The five-year project will have linkages with 13 institutions and laboratories located in USA, UK, New Zealand and Denmark. Sixteen training fellowships of the total duration of 86 man-months in as many areas of specialisation have been identified. Twelve consultants would be invited for a period of about two months each from 12 disciplines including seed pathology, seed processing, seed market-

ing, seed storage, seed testing, seed processing, seed physiology, varietal identification. The Research Plan up to 1987 which includes seed storage studies on different crops, standardization of seed testing procedures, etc. has already been started. The steering committee, under the chairmanship of the Vice-Chancellor, has also been constituted.

The Centre would conduct research on various aspects of seed production and technology, seed quality like germination, purity, seed nutrition studies, seed processing and seed pathology. Besides postgraduate training programmes for Ph.D. and M.Sc., the Centre will have short term in-service training programmes for teachers in other institutions and a programme of specialised short course trainings. Apart from production of breeders seed for commercial multiplication by 1990, manuals, textbooks and technical reports would be produced on various aspects of seed technology.

The UNDP contribution to the project would be more than Rupees 13 lakhs, whereas ICAR contribution would be Rs. 1,38,52,900.

The Centre is expected to strengthen the comprehensive programme of the Govt. of India for increasing the production of quality seeds almost sixfold during the Seventh Five Year Plan. The end users of the research findings and technical know how developed at the Centre would be various research institutions, seed corporations, seed certification agencies, farmers, private sector seed companies, etc.

Farming System Research Workshop

The L. N. Mishra Institute of Economic Development and Social Change, in collaboration with the Rajendra Agricultural University, organised a five-day work-

shop on field survey methodology for Farming System Research (FSR) in Patna recently. Sponsored by the Ford Foundation, the workshop held wide-ranging discussions on different aspects of field survey methodology, land utilisation pattern and other issues of vital importance in the field of agricultural technologies and research.

The workshop comprised seven working sessions, three paper presentation sessions and one concluding session. The sessions were presided over by Dr. B.P. Ghildyal, Liaison Scientist of International Rice Research Institute of Manila (Philippine), Dr. B.N. Shukla, Professor, L.N. Mishra Institute, Patna, Dr S. Akinchan, Prof. and Head of the Department of Sociology, Ranchi University, and Prof. Anil Kumar Gupta of Centre for Management in Agriculture, IIM, Ahmedabad.

At the concluding session various reports prepared by different groups were examined and a future line of action was adopted for experts engaged in farm research or similar other allied fields. The important conclusions arrived at the workshop included: (1) holding of periodical meetings of FSR groups in different places in Eastern India; (2) organising workshops on specific components of FSR from time to time; and (3) organizing visits of FSR groups to other FSR groups area.

Dr. Chakradhar Sinha, Director of the Institute, in his concluding remarks talked about vast collaborative opportunities for different research institutions of the eastern region which are thrown open by the workshop.

Acharya Narendra Deva Remembered

The Narendra Deva University of Agriculture and Technology, Faizabad, organised a function to pay homage to the memory of Acharya Narendra Dev after whose name the University had been set up. Mr. Justice Murtuza Hussain, Lok Ayukta, Uttar Pradesh, presided over the function which was also attended by Mr. Ashok Nath Verma, M.P., the elder son of Acharyaji.

A research journal "Narendra Deva Journal of Agricultural Research" to be published in the name of Acharya ji was also released on this occasion by Mr. Ghulam Hussain, former Vice-Chancellor of the University. According to Dr. R. K. Singh, Director of Research, the main objective of this periodical is to publish original research work done by the university scientists or scientists working at other academic institutions and research organizations located in eastern Uttar Pradesh, so that the benefits of these researches may be communicated to others.

UNIVERSITY NEWS

ANNOUNCEMENT

Effective 1st January, 1987 University News will be published every Monday instead of on fixed dates i.e. 1st, 8th, 16th and 23rd of every month as at present. This will enable us to offer four additional issues to our readers. The first issue of 1987 will therefore appear on 5th January, 1987.

News from UGC

Research Associateships in Humanities and Social Sciences

The University Grants Commission (UGC) has selected 54 scholars for the award of Research Associateships in Humanities and Social Sciences subjects for the year 1985-86.

These awards, under a U.G.C. Scheme, are given every year to research students and teachers, who have shown extraordinary talent for research and competence, to take up whole time research work independently in the universities in their respective fields of study. Tenable for a period of three years, extendable for another term not exceeding two years, these awards are given to scholars preferably below the age of 45 years (55 years in the case of women candidates) who have already obtained a doctorate degree, published research work and have shown evidence of independent research work.

Subject-wise these awards relate to Sanskrit (9), History and Hindi (6 each), Psychology (5), Telugu, Urdu and Philosophy (4 each), Sociology and Political Science (3 each), English and Archaeology (2 each) and Linguistics, Pali, Persian, Buddhist Studies, Education and Economics (1 each).

University of Philippines Asian Centre

There is a large scope for sharing experiences for mutual benefit for both India and Philippines in the fields of higher education, engineering and technology. This is the view of Prof. Ajit Singh Rye, Dean of Asian Centre, the University of Philippines.

Prof. Rye, of Indian origin, is presently on a visit to India as a member of Philippines University Educational delegation at the invitation of University Grants Commission. He said that both India and Philippines had made significant advancements in industrial and technological fields and there was an urge on the part of both these countries to learn from each other. This is possible only if more and more students, faculty members and experts from each country were encouraged to visit the other country under the bilateral exchange programmes.

Talking about the Asian Centre at the University of Philippines, Diliman, Prof. Rye said that it grew out of the Institute of Asian

Studies (IAS) which was established in 1955. The IAS was a research institution devoted to the promotion and advancement of studies on Asia in the Philippines University. The transformation of the IAS into the Asian Centre, in 1968, enabled it to become a degree-granting institution as well as a research centre. The main aim of this Centre was to bring Philippines closer to the rest of the continent and Asian Culture and Civilization nearer to Philippines.

Prof. Rye further stated that India was a major component in the South Asian Area Studies Programme of the Centre which had 150 students on its role. It offered Master's Degree courses in Asian and Philippines studies and Ph.D. in Philippines studies. It also provided venue for specialists on Asia and the Pacific to exchange views and insight and enabled them to undertake joint teaching programmes and research activities.

News from Abroad

Age Old Problem Settled

American university authorities who feared that a new law banning mandatory retirement would leave them with a horde of geriatric tenured faculty, are breathing again. At least for the moment.

The version of the law finally passed by Congress recently contained a last-minute amendment. It allowed colleges to enforce retirement at 70 for the next seven years. The bill also called for a study of the impact on higher education of eliminating mandatory retirement.

"This does not really deal with the total concerns we have, which require an exemption at least until

the year 2,000" said Sheldon Steinbach, general counsel for the American Council on Education. "But in the light of the political realities, we are happy to get seven years and the study, which hopefully will buttress our position that additional exemptions will be needed."

Opinion on the issue has been divided among the education community. The American Federation of Teachers and the National Education Association favour the abolition of the retirement age as an anti-discrimination measure, while the American Council on Education has argued that it would worsen a decline in the number of positions available to younger faculty.

The American Association of University Professors has opposed both the bill and an exemption for faculty, arguing that it would create a rift between those it affected and those it did not, and that even a permanent exemption would be vulnerable to removal.

[Courtesy : Times Higher Education Supplement 7-11-1986.]

Soviets Spend More on Education than on Defence

The Soviet Union is reported to have allocated 52.1 million roubles for education, science and culture in the current State Budget. This is 2.7 times higher than the defence budget. This is being done to raise the standard of general education in keeping with the requirements of the 21st century and also to give every

citizen a maximum of knowledge necessary for a successful career in his or her chosen field for enjoying the values of human culture.

It may be recalled that under the current constitution, which was adopted in 1977, the right to education is ensured by free provision of all forms of education, by the institution of universal, compulsory secondary education, and broad development of vocational, specialised secondary and higher education, in which instruction is oriented towards practical activity and production; by the development of correspondence and evening courses; by the provision of state scholarships and grants and privileges for students; by the free issue of school textbooks; by the opportunity to attend a school where teaching is in the native language; and by the provision of facilities for self-education.

December 18 to 20, 1986. The selected players will undergo a coaching camp till their participation in the National Championship.

ATHLETICS

Indian Universities' Athletics contingent is likely to participate in the next World University Games to be held at Zagreb (Yugoslavia) in the month of July, 1987. Probable men and women athletes will be selected on the basis of achievement in the Inter-University Athletics Meet being organised at Allahabad University from December 28, 1986 to January 1, 1987. The prospective athletes selected at Allahabad will attend their first preparatory coaching camp at Netaji Subhash National Institute of Sports (NSNIS), Patiala from January 15, 1986 onwards.

VOLLEYBALL (Men)

The next Federation Cup Volleyball Tournament, in which 12 best teams of the country are invited to participate, will be held at Thane (Maharashtra) from January 18 to 24, 1987. Indian Universities Volleyball Men Team for participation in this prestigious Championship will be picked up at selection trials at Allahabad University on January 3 and 4, 1987. 48 probable players already selected on the basis of performance in the Zonal Inter-University Volleyball Championships, have been invited to participate in the trials. The selected team will be retained for a training session of about 15 days prior to their participation in the Federation Cup.

We Congratulate...

Dr. K. N. Rao who has taken over as Vice-Chancellor of the University of Health Sciences, Vijayawada.

Sports News

Universities' Teams for National and International Championships

TENNIS

For participation in the National Tennis Championship to be held at Calcutta from December 22 to 28, 1986, the Indian Universities Team was selected at trials at Delhi University on December 13 and 14, 1986. The selected players then attended a brief coaching session at Delhi University.

CRICKET (Women)

Indian Universities Women Cricket Team for participation in the forthcoming National Championship to be held at Hyderabad from January 15, 1987, was selected on the basis of performance of university cricketers in the Inter-

University Women Cricket Championship concluded at Madras University on December 16, 1986. A coaching camp for the team is proposed to be organised at Hyderabad from January 5, 1987 onwards. The Indian Universities team will play its first match against Bihar State team on January 17, 1987.

HOCKEY (Women)

The final selection trials for the Indian Universities Women Hockey Team to participate in the National Women Hockey Championship to be held at Trivandrum from January 2 to 11, 1987, were conducted at Union Christian College, Alwaye an affiliated college of Gandhiji University, from

Bombay University Bags Maulana Azad Trophy

The Maulana Abul Kalam Azad Trophy instituted by the Govt. of India in the year 1956-57 and awarded to the best overall university for sports excellence, was presented to the Bombay University by Giani Zail Singh, the President of India at an impressive ceremony on December 10, 1986. Dr. (Miss) M.D. Bengalee, Vice-Chancellor of Bombay University received the trophy for the year 1985-86 on behalf of her university.



Giani Zail Singh, President of India, presented Maulana Abul Kalam Azad Trophy to Bombay University. Seen on his right are Mrs. Margaret Alva, Minister of State for Youth Affairs and Sports and Dr. (Miss) M.D. Bengalee, Vice-Chancellor of the University of Bombay.

Bombay University won the Trophy securing 1031 points. Guru Nanak Dev University and Delhi University obtained the second and third position securing 870 and 597 points respectively.

THE SHAH BANO CONTROVERSY : Asghar Ali Engineer (Ed.)

The book is a valuable record of a historic case that shook India. The case and the judgement which created a storm of protest which led to the framing of the Muslim Women (Protection of Rights on Divorce) Bill. Another off-shoot of the judgement was the revival of the demand for a common civil code, a code that would apply to all Indian citizens.

The whole movement as seen through this collection of articles both for and against the judgement, the bill and the common civil code makes fascinating reading.

Hardcover

Rs. 165.00

CASTE, KINSHIP, COMMUNITY : Satadal Dasgupta

Based on intensive fieldwork conducted over a period of several years, the book is an outstanding contribution to the ethnographic literature on caste in India. Social and geographic boundaries of a localised endogamous group of the *Dule Bagdis*, a major cultivating and fishing caste, have been identified and analysed in their entirety for the first time.

Besides providing an exhaustive analysis of the traditional structure of a localised caste, the book also identified the factors which have contributed to its change in recent years.

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DELHI BOMBAY CALCUTTA MADRAS PATNA BANGALORE HYDERABAD

CALENDAR OF EVENTS

Proposed Dates of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/Officer to be contacted
December 26-28, 1986	Seventh National Congress of Parasitology	Prophylaxis and Control of parasitic diseases of man and his biosphere	Department of Bioscience, Ravishankar University, Raipur in collaboration with Indian Society for Parasitology.	Dr. S.M. Agarwal (Organising Secretary), Vice-Chancellor, Ravishankar University, Raipur.
December 26-30, 1986	Seminar on English Language Teaching Methodology and Examination Reform for Training College English Lecturers.	To familiarise teachers with the recent developments in Methodology of English teaching and few innovative features of examination system.	Faculty of Education, Dayalbagh Educational Institute, Dayalbagh, Agra.	Mrs. S. Paul, Lecturer, Faculty of Education, Dayalbagh Educational Institute, Dayalbagh, Agra-5.
January 4-24, 1987	All India Short-term Institute in Chromatographic Techniques.	To give an exposure to the participants on the theory and practice of modern chromatography.	Department of Applied Chemistry, Cochin University of Science and Technology, Cochin.	D: V.N. Sivasankara Pillai (Director of the Programme Department of Applied Chemistry, Cochin University of Science and Technology, Cochin.
January 6-9, 1987	International Seminar on Cement and Allied Building Materials	Exchange of knowledge and experience to assist the cement and building materials industries in their technological growth and development through regional and international co-operation and collaboration.	National Council for Cement and Building Materials, New Delhi	The Organising Secretary, National Council for Cement and Building Materials, M-10, South Extension Part II, Ring Road, New Delhi
January 15-17, 1987	Second National Conference on System Dynamics	Intended to bring together researchers and practitioners in the field of System Dynamics, managers and executives involved in long range planning activities.	Department of Mechanical Engineering, Institute of Technology, Banaras Hindu University (BHU), Varanasi	Dr. Sushil K. Sharma Organising Secretary, Department of Mechanical Engg., Institute of Technology, BHU, Varanasi
February 16-19, 1987	National Seminar on Crystal Growth and Characterisation of Advanced Materials for Solid State Applications	Topics to be covered are: Crystal Growth Centre. Theoretical and Experimental aspects of crystal growth; Heat and Mass transport; Industrial Crystallisation; Rapid Solidification and Casting; Biological and Molecular Crystals; and Special Crystals—New Techniques and Instrumentation.	Crystal Growth Centre, Anna University, Madras.	Prof P. Ramasamy Convener, Third National Seminar on Crystal Growth, Crystal Growth Centre, Anna University, Madras.
April 7-17, 1987	Introductory Course in Phonetics and Spoken English	To acquaint college and university teachers of English with the problems of English speech and pronunciation.	Central Institute of English and Foreign Languages, Regional Centre, Lucknow.	Prof. V.D. Singh, Course Director & Officer-in-charge, Central Institute of English and Foreign Languages, Regional Centre, Moti Mahal Campus, 2 Rana Pratap Marg, Lucknow-226 001.

AIU Library & Documentation Services

One of the important functions of the Association of Indian Universities is to act as a clearing house of information on higher education in the country. Towards this end the AIU Library is engaged in collection building and developing instruments for the dissemination of research information. Over the years a valuable collection of books and documents on different aspects of higher education has been acquired.

The Library has also developed Bibliography of Doctoral Dissertations as an effective tool in the dissemination of research information. Retrospective bibliographies covering the period 1857-1970 and 1970-75 were the first to appear. Effective 1975, however, the bibliography is issued annually in two volumes. One volume deals with Natural and Applied Sciences while the other records doctoral degrees awarded in Social Sciences and the Humanities. In addition to the normal bibliographical details like the name of the Research Scholar, the title of the thesis, years of registration for and award of the degree, and the name of the University accepting the thesis for award of a doctoral degree, the bibliography also gives name and complete address of the supervising teacher and an availability note that seeks to inform whether a copy of the dissertation is available for consultation and use in the University Library/Department or Registrar's Office.

The columns 'Theses of the Month' and 'Research in Progress' are intended to cut out the time lag between the receipt of information and its inclusion in bibliography. Such Universities as are not sending us regular information in respect of Doctoral Theses accepted and research scholars enrolled are welcome to make use of these columns.

The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday.

CURRENT DOCUMENTATION IN EDUCATION

A list of select articles culled from periodicals received in AIU Library during November, 1986.

EDUCATIONAL PHILOSOPHY

Shamsuddin. Education for moral and spiritual values. *Edn Q* 37 (3), 1985, 17-20.

EDUCATIONAL PSYCHOLOGY

Bantock, G.H. Educating the emotions: An historical perspective. *British J Ednl Studies* 34 (2), 1986, 122-41.

Kar, N.N. Value education: The need, concept and scope. *Edn Q* 37 (3), 1985, 21-4.

EDUCATIONAL PLANNING

Carnoy, Martin. Educational reform and planning in the current economic crisis. *Prospects* 16 (2), 1986, 205-14.

EDUCATIONAL ADMINISTRATION

Jellessa, William W. The legacy of Rip van Winkle. *New Directions Hr Edn* (54), 1986, 5-14.

Smith, Hoke L. The incredible shrinking college: Downsizing as positive planning. *Ednl Record* 67 (2-3), 1986, 38-41.

TEACHERS & TEACHING

Hollingsworth, Brain. Human values and the training of teachers. *Univ Q* 40(3), 1986, 314-22.

EDUCATIONAL RESEARCH

Barrow, Robin. Empirical research into teaching: The conceptual factors. *Edn Res* 28 (3), 1986, 220-30.

Drew, David Eli. Seeing the forest for the trees: Contribution of research on higher education. *Change* 18 (4), 1986, 7-10.

EDUCATIONAL TECHNOLOGY

Gilbert, Steven W. and Green, Kenneth C. New computing in higher education. *Change* 18 (3), 1986, 33-6.

Laliez, Raymond. Educational technology in universities in developing countries. *Prospects* 16 (2), 1986, 177-95.

Srivastava, G.N. Prakash. Computer technology and the future of education. *Edn Q* 37 (3), 1985, 13-6.

EVALUATION

Jones, Lyle V. etc. Mathematics and science test scores as related to courses taken in high school and other factors. *J Ednl Measurement* 23(3), 1986, 197-208.

Mehrens, William A. and Phillips, S.E. Detecting impacts of curricular differences in achievement test data. *J Ednl Measurement* 23(3), 1986, 185-96.

ECONOMICS OF EDUCATION

Atwell, Robert H. and Hauptman, Arthur M. The politics of tuition. *Ednl Record* 67 (2-3), 1986, 4-6.

Hackney, Sheldon. Under the Gun: Why college is so expensive? *Ednl Record* 67 (2-3), 1986, 9-10.

Hansen, Janet S. Alternatives to borrowing. *Change* 18 (3), 1986, 20-6.

Lewin, Keith. Educational finance in recession. *Prospects* 16 (2), 1986, 215-30.

O'Keefe, Michael. College costs: Have they gone too high too fast? *Change* 18(3), 1986, 6-8.

Orivel, Francois. Economic crisis and educational crisis: Looking ahead. *Prospects* 16(2), 1986, 197-204.

Padmanabhan, C.B. Towards a rational financial policy for Indian education. *Edn Q* 37(3), 1985, 1-5.

The Price of college shaping students' choices. *Change* 18(3), 1986, 27-30.

Visalberghi, Aldo. May educational expenditure limitations play a positive role? *Prospects* 16(2), 1986, 243-9.

Williams, Peter. Non-Government resources for education with special reference to community financing. *Prospects* 16(2), 1986, 231-41.

EDUCATIONAL JOURNALISM

Khosla, D.N. Educational journalism: Status, scope and priorities. *Edn Q* 37 (3), 1985, 25-31.

ADULT EDUCATION

Boud, David. Facilitating learning in continuing education: Some important sources. *Studies Hr Edu* 11(3), 1986, 237-43.

Portwood, Derek. Continuing education and unemployment. *Studies Hr Edu* 11(3), 1986, 269-78.

Smithers, Alan and Griffin, Alice. Mature students at university: Entry, experience and outcomes. *Studies Hr Edu* 11 (3), 1986, 257-68.

Usher, R.S. Reflection and prior work experience: Some problematic issues in relation to adult students in university studies. *Studies Hr Edu* 11 (3), 1986, 245-56.

Weil, S.W. Non-traditional learners within traditional higher education institutions: Discovery and disappointment. *Studies Hr Edu* 11(3), 1986, 219-35.

COMPARATIVE EDUCATION & COUNTRY STUDIES

Ming, Cheng Kai. China's recent education reform: The beginning of an overhaul. *Comp Edu* 22 (3), 1986, 255-70.

Rama, German W. Latin America education in an era of change. *Prospects* 16(2), 1986, 161-75.

Szekely, Beatrice Beach. The new Soviet educational reform. *Comp Edu Rev* 30(3), 1986, 321-43.

THESES OF THE MONTH

A List of Doctoral Theses Accepted by Indian Universities

BIOLOGICAL SCIENCES

Anthropology

1. Khan, Safiya Khatoon. *Study of twins and reliability of creases in twin diagnosis*. HS Gour.

Environmental Sciences

1. Shrigi, S.K. *Responses of a few forest species and crop varieties to air pollution*. Vikram.

2. Siva Reddy, Yammam. *The biology of a few common fishes from Hussain Sagar lake, Hyderabad, India*. Andhra.

Microbiology

1. Amin, Ashok Rajnikant. *Microbial transformation of plant latex*. Baroda.

2. Dudeja, Surjit Singh. *Ecological factors affecting nodulation of pigeonpea, Cajanus cajan (L) Millsp.* HAU.

3. Punia. *Genetics of nitrogen fixation and nodulation in Rhizobium*. HAU.

Marine Biology

1. Aruna, Philomica. *Biology of Echinocarinatus*. Madurai.

2. Karunyal, J. *Effects of pyridazine compounds on Chlorella*. Madurai.

3. Soni, Subhash Chandra. *Pathological investigations in palaemon prawns*. Cochin.

Biochemistry

1. Deshpande, Sarvottam D. *Studies in biodegradation of some organic compounds discharged from organic chemical industries in aqueous system*. Nagpur.

2. Jaya Lakshmi, B. *Studies on microbial formation of gaseous hydrocarbons*. Osmania.

3. Nag, Bishwajeet. *Studies on the structure and mechanism of association of 30s and 50s subunits of E. coli ribosomes*. BHU.

4. Swaminathan, Uma. *Nutrition and phosphoinositides in rat brain*. Baroda.

Botany

1. Appa Rao, Podila. *Determinants of pathogenesis and biological control with special reference to vascular wilt pathogens*. Patel.

2. Barhate, Vijay P. *Studies on the algal flora of Vidarbha and Khandesh, Maharashtra*. Nagpur.

3. Bhagya Lakshmi, R.V. *Ambient air quality and vegetation at certain localities of Hyderabad*. Osmania.

4. Biswas, Ajay Kumar. *Water stress-induced changes in rice cultivars*. Burdwan.

5. Latha Kumari, A. *Cytogenetics of B. chromosomes in three West African populations of pearl millet, Pennisetum typhoides (Burm) S & H. Andhra*.

6. Mariappan, T. *Protein synthesis in the chloroplasts*. Madurai.
 7. Nag, Anita. *Histochemical and pharmacognostic studies on certain taxa of the families Apocynaceae and Asclepiadaceae*. Rajasthan.
 8. Pandey, Bashist Narayan. *Pathological studies of some diseased medicinal plants*. Magadh.
 9. Raizada, Meena Kumari. *Effect of certain heavy metals on a nitrogen fixing cyanobacterium, Nostoc muscorum*. BHU.
 10. Shyla, R. *Genetical studies in rice, Oryza sativa Linn, plant type and certain other morphological characters*. Calcutta.
 11. Singh, Raj Kumar. *Soil respiration and root decomposition in teak plantations in tropical dry deciduous forest zone*. BHU.
 12. Srinivasu, T. *Effect of weedicides on weed, Portulaca hysterophorus L.* Nagpur.
 13. Tiwari, Harsh Lal. *A study of the plant responses to soil salinity under growth hormone treatments*. BHU.
 14. Venkateswara Raju Chakravaram. *Studies on gamma ray induced effects and genetics of chlorophyll deficient phenotypes in grain sorghum, Sorghum bicolor (L) Moench*. Andhra.
 15. Verma, Sharda. *Cytotaxonomical, morphological and experimental studies of genus Asplenium L. in Rajasthan*. Rajasthan.
 16. Yadav, Manoj. *Qualitative and quantitative analysis of macrophytes and macrofauna in some aquatic ecosystems around Singur*. HS Gour.
- ### Zoology
1. Asha. *Changes in the tissue composition and reproductive cycle in relation to feeding in major carp, Cirrhina mrigala Hamilton*. PAU.
 2. Bhartiya, Krishna Murari. *Radio protective effect of WR-2721 against internal beta radiation on liver and small intestine of mice*. Rajasthan.
 3. Chandrasekhar, Reena. *Insect pest suppression by antifecundants and a chitin synthesis inhibitor*. Orissa.
 4. Garg, Beeta. *Screening of plants for third generation pesticides in relation to certain insects of medical and agricultural importance*. Orissa.
 5. Inamdar, Sunanda M. *Embryology of a bat, Hipposideros ater ater*. Nagpur.
 6. Joseph, Mathew. *Morphology, biology and behaviour of Ceratosolen fusciceps Mayr and its relationship with other fig-wasps breeding in the receptacles of Ficus racemosa L.* Calcutta.
 7. Kanbare, R.R. *Studies on the O₂ consumption of the fishes with special emphasis to the biotic and abiotic factors*. Vikram.
 8. Munshi, Sunita. *Nutritional ecology of early growth stages of Aspidoparia morar Blecker and Puntius conchionus Ham from Jommu*. Jammu.
 9. Narasimhan, Kunumukkala Appala. *Studies on some aspects of the biology and fishery of the blood clam Anadara (Tegillarca) granosa Linnaeus, 1758, and A. (T) rhombica (Born 1780) from the Kakinda Bay*. Andhra.
 10. Pathak, Chandra Kant. *Studies on some aspects of hypothalamo-neurohypophyseal neurosecretory system in a fresh water teleost, Rasbora daniconius Ham*. HS Gour.
 11. Rajendren, G. *Investigations on the Bruce effect in laboratory mice*. BHU.
 12. Ram, Ramraj. *In vivo and in vitro studies of glutamate decarboxylase and its related neuro-humors in Cancer*. BHU.
 13. Sandhu, Satwant Kaur. *Studies on the embryology of some Indian chiroptera*. Nagpur.
 14. Sharma, Chhatter Pati. *Developmental ecology of Aspidoparia morar Blecker, A link fish from Jammu, with a study on the effect of some environmental factors on its embryonic stages*. Jammu.
 15. Sharma, Suchitra. *Cell sorting: An experimental model of morphogenesis*. Delhi.
 16. Srivastava, Manju. *Role of pineal gland in regulation of reproduction in a tropical mammal, the Indian palm squirrel, Funambulus pennanti*. BHU.
- ### Medical Sciences
1. Dwivedi, Ram Dutta. *Chakradutt ki aprokshit evam nish-chalkar dwara prant ratnaprabha tika ke alochnatmak adhyayan*. (Hindi). BHU.
 2. Kusa, Susheela Sridhara. *Purification and standardization of allergen*. Delhi.
 3. Ojha, Anil. *Phytochemical and antidiabetic studies of root bark of 'saptarangi blarad'*. Delhi.
 4. Pandey, Madhulata. *Development of a rating scale for screening of mentally retarded children*. BHU.
 5. Pasha, M.A. Qadar. *Studies on the biologically active fractions of the Indian pit viper venom*. Delhi.
 6. Ramjee Singh. *'Swastha-vritta' : Survey of rural health status near BHU Campus*. BHU.
 7. Sharma, Banwari Lal. *Ayurved Shiksha evam chikitsa mein ayurved Marand Swami Lakshmi Ram ka yogdan* (Hindi), Rajasthan.
 8. Suryanarayana, A. *Evolution of mutagenic potential of psychotropic drugs in vivo and in vitro test systems*. Orissa.
 9. Tomar, Girendra Singh. *A critical study of ayurvedic clinical hepatology and treatment of certain liver disorders with kalmegh, Andrographis paniculata Nees*. BHU.
- ### Agriculture
1. Aulakh, Pushpinder Singh. *Evaluation of almond hybrids*. PAU.
 2. Behl, Mohinder Kumar. *Studies on shoe-string disease of tomato, Lycopersicon esculentum Mill.* YS Parmar.
 3. Bital Ahmed. *Insecticidal binding with macromolecules of haemolymph and blood*. YS Parmar.
 4. Chandel, Yoginder Singh. *Studies on the nematodes associated with citrus in Himachal Pradesh*. YS Parmar.
 5. Chauhan, Vijay Bahadur. *Studies on Phytophthora blight of pigeon pea, Cajanus cajan (L) Millsp.* BHU.
 6. Dutt, Hari. *Studies on modifications of seed germination techniques and seedling juvenility for induction of precocity in some fruit spp.* YS Parmar.

7. Garg, Rashmi. Effect of radiation on acetylcholinesterase during embryonic diapause development of Indian Gypsy moth, *Dymantria obfuscata* Walk. BHU.

8. Gupta, Prem Raj. Effects of some insect growth regulators on endocrine and reproductive systems in the potato aphid, *Epilachna viginotioctopunctata* (F). YS Parmar.

9. Gupta, Subhash Chander. Genetic studies on the mutagen induced variability for yield, its components and some quality characters in rice, *Oryza sativa* L. HP.

10. Gurmit Singh. Seed production of late sown berseem, *Trifolium alexandrinum* L. as influenced by irrigation, cutting management and variety. PAU.

11. Gursurinderpal Kaur. Biology of powdery mildew of ber caused by *Microspheara olphitoides*. PAU.

12. Jena, Dinabandhu. Soil water and fertilizer movement studies relative to inter-cropping systems using radiation and isotope techniques. OUAT.

13. Kadam, Rangrao Hindurao. Effect of forms and levels of urea on nitrification rates, yield and quality of seasonal sugarcane, *Saccharum officinarum* L. var. co-7219 under different irrigation levels. MP Krishi.

14. Mishra, Jai Shanker. Effect of zinc, NAA and cycocel on vegetative growth, flowering, fruiting and fruit quality in mango, *Mangifera indica* L. BHU.

15. Nandal, Tilak Raj. Weed control studies in brinjal, *Solanum melongena* L. var. BR-112. HAU.

16. Naqash, Ghulam Sarwar. Effect of various chemical treatments on biochemical constituents and storage of apple, *Malus domestica* Borkh cv. Red delicious. YS Parmar.

17. Nayak, Ballav Chandra. Crop substitution in unirrigated upland of Orissa. OUAT.

18. Nayyar, Suresh Kumar. Studies on leaf rust resistance in wheat. YS Parmar.

19. Nimbalkar, Vasant Shankar. Combining ability and stability for shoot fly resistance, genetic analysis of yield and its attributes in sorghum, *Sorghum bicolor* (L) Moench. MP Krishi.

20. Paltoo Ram. Effect of plant density under different doses of nitrogen on growth herb yield, oil yield and quality of transplanted Japanese mint, *Mentha arvensis* L. BHU.

21. Sant Prasad. Effect of nitrogen, potassium and cycocel on growth, yield and oil content of mustard, *Brassica juncea* (L.) Czern and Coss. BHU.

22. Sharma, Uma Shanker. Studies on the causes of decline of guava *Psidium guajava* L. HAU.

23. Singh, Bijendra. Studies on crop-weed competition and integrated methods of weed control in Okra, *Abelmoschus esculentus* (L.) Moench. BHU.

24. Singh, Prem Shanker. Physiological significance of iron nutrition in rice, *Oryza sativa* L. BHU.

25. Singh, Udai Bhan. Effect of nitrogen, gibberellic acid and cycocel on the growth and flowering of gladiolus. BHU.

26. Singh, Ram Chandra. Screening of rhizobial isolates of mung for their effectiveness. BHU.

27. Thakur, Radha Ballabh. Effect of pesticides on N-use efficiency and growth dynamics in rice. Rajendra Agrl.

28. Yadava, Barham Datt. Effect of plant population in relation to plant type and fertilization on growth, yield, nutrient uptake and gum production of clusterbean, *Cyamopsis tetragonoloba* (L) Taub. HAU.

29. Yash. Studies on the brown rot of peach caused by *Monilinia species*. YS Parmar.

Veterinary Science

1. Harshan, K.R. Morphogenesis of the female genitalia in goat. HAU.

INDIAN INSTITUTE OF SCIENCE RANGALORE-560012



Requires

LECTURER in the Centre for Ecological Sciences (Reserved for Scheduled Caste).

DOCTORATE in Physical or Mathematical Sciences based on Research relating to Mathematical Modelling of biological phenomena. A sound record of publications in the field of Mathematical biology or bio-statistics is essential. Should be well versed in statistical methods and Computer Programming.

Experience of research in the areas of Ecology, Evolutionary Biology and Behaviour would be an additional advantage.

Emoluments: Rs. 2,123/- p.m. (approx.) in the scale Rs. 700-1600.

Details and prescribed application forms can be obtained on request free of cost on production of Caste Certificate from a competent authority addressed to the 'Registrar', Indian Institute of Science along with a self-addressed Rs. 3.30 stamped envelope of the size 28 x 18 cms. on or before 29th December, 1986.

ADVT. No. R (IA) 308-56/86.

REGISTRAR

CLASSIFIED ADVERTISEMENTS

JIWAJI UNIVERSITY, GWALIOR

No. F./Adm/Ext./86/9551

Dated : 12-12-86

Application alongwith copies of Testimonials and certificates are invited in the prescribed form for the following posts so as to reach the Registrar, Jiwaji University, Gwalior on or before 12.1.1987

1. Reader in Physics. One

Field of Specialisation

(a) Essential : Experimental solid state Electronics. Microprocessor.

(b) Desirable : Specialization in computer science (Hardware).

Pay Scale : Rs. 1200—1900.

Qualifications

Good academic record with a doctoral degree or equivalent published work. Evidence of being actively engaged in (i) Research or (ii) Innovation in teaching methods or (iii) Production of teaching materials.

About five years experience of teaching and/OR research provided that at least three of these years were as Lecturer or in an equivalent position.

This Condition may be relaxed in the case of candidates with outstanding record of Teaching/Research. Good academic record means:—

(i) A candidate holding a Ph.D. degree should possess at least a Second Class Master's degree; Or

(ii) A candidate without a Ph.D. degree should possess a high Second Class Master's degree and Second Class in the Bachelor's degree; Or

(iii) A candidate not possessing Ph.D. degree but possessing Second Class Master's degree should have obtained First Class in the Bachelor's degree.

2. Director of Physical Education : One

Pay Scale : Rs. 1370-40-1450-50-1700-EB-50-1800-60-2100.

Qualifications

(i) Master's Degree (Two years course) in Physical Education/Higher Second Class, with Diploma in Sports coaching in a recognised institution and/or should also have represented University at Inter-University level/State in National Championship.

(ii) 10 years experience of organising games and sports (as exemplified in handling of about half a dozen teams in a year in his institution and their participation in University/Inter College tournaments) and ability to encourage mass participation in games and sports.

3. Asstt. Librarian : One

Pay Scale : (UGC). Rs. 700-40-1100-50-1600.

Qualifications

(i) Good academic record with at least a high Second Class in Master's degree in a subject other than Library Science.

(ii) Master's degree in Library Science with first class or high Second Class.

4. Head Computer Centre : One

Pay Scale : Rs. 1100-1600.

Qualifications

(i) M.Tech. (Computer) or M.C.A. with at least II Division.

(ii) Five years experience of computer hardware as well as software. Desirable Experience of working with ICIM 6000 or equivalent computer systems.

5. System Engineer : One

Pay Scale : Rs. 1100-1600.

Qualifications

(i) M.Tech. Computer with II Division.

(ii) Five years experience of computer hardware/software and sufficient experience in machine language. Desirable Experience of working with ICIM 6000 equivalent computer systems.

6. Programmers : Two

Pay Scale : Rs. 700-1300.

Qualification

(i) M.C.A. or M.Sc. (Computer Science) with atleast II division.
OR

(ii) M.Sc. (Statistics/Maths/Physics/Applied Maths/Applied Physics with P.G. Diploma in computer science from a recognized institution/University. Desirable Experience of working as programmer/Computer operator in a established computer centre.

7. Computer Operators : Two

Pay Scale : Rs. 425-700.

Qualifications

B.Sc. with atleast II class and experience of working with computer operation for atleast 2 years.

8. Key Punch Operators : Two

Pay Scale : Rs. 260-400.

Qualifications

Graduate with atleast II Class and experience of data entry for atleast 1 year.

No age limit is prescribed provided a person is not superannuated. The prescribed application form may be obtained by sending a postal order of Re. 1.00 in the name of the Registrar, Jiwaji University, Gwalior. The candidate who desired to get the application form by Registered post should send an additional amount of Rs. 5.00 by postal order for postal expenses i.e. total Rs. 6.00.

Application for each post be sent separately alongwith a crossed I.P.O. worth Rs. 7.50 payable to the Registrar, Jiwaji University, Gwalior so as to reach on or before the last date for receiving application as indicated above.

Application without prescribed application fee and/or incomplete in any respect and/or received after the last date will not be considered.

Preference will be given to S.C./S.T. candidates. Those already employed, should send their applications through proper channel. Applicants called for interview will not be paid any T.A./D.A. for the purpose.

B.P. Dixit
REGISTRAR

HARYANA AGRICULTURAL UNIVERSITY

Corrigendum to Advertisement No. 8/86

Published on 1-12-86

The discipline of post at Sr. No. 16 may be read as 'Rumen Microbiology' in place of 'Humen Microbiology'.

REGISTRAR

PUNJABI UNIVERSITY

PATIALA

Advt. No./Continental/70/PRO/ESTT/86

Applications are invited for the following posts.

1. Finance Officer : One.

(Grade: Rs. 1400-60-1700/75-2000+150; spl. pay).

2. Lecturer : (Two in Computer Science and One in Punjabi).

(Grade : Rs. 700-40-1100-50-1600).

3. Technical Assistant : (Editing-reporting One temporary upto 31-3-1988, in the Deptt. of Journalism and Mass Communication).

(Grade : Rs. 700-25-850/30-1000-40-1200).

Note

(i) Details of QUALIFICATIONS etc. will be supplied alongwith application forms.

(ii) Number of posts may be increased or decreased.

(iii) The qualifications may be relaxed in case of poor response.

(iv) The University reserves the right not to fill up any of the posts advertised.

APPLICATION FORMS can be had from the Head, Publication Bureau, Punjabi University, Patiala on payment of Rs. 5/- at the counter OR by sending IPO of Rs. 5/- in favour of the Registrar alongwith self-addressed envelope of the size 25 x 10 cms. with 2.70 paise postage, superscribing on it **REQUEST FOR APPLICATION FORM FOR THE POST OF _____**.

In service candidates should apply through Proper Channel with an advance copy to the University.

Application form, complete in all respects, should reach the Registrar by 15-1-1987.

REGISTRAR

GAUHATI UNIVERSITY

GAUHATI-14

Advertisement No. 11 of 1986.

Applications in the standard forms prescribed below are invited from eligible candidates and will be received upto 31st December, 1986.

1. Professor of Statistics: One post (Permanent). Specialisation : Open.

2. Professor of Commerce : One post (Permanent). Specialisation : Open.

3. Reader in English : One post (Permanent). Specialisation : Open.

4. Lecturer in Chemistry : One post (Permanent). Specialisation: Organic Chemistry.

5. Lecturer in History : One post (Permanent). Specialisation : Modern India. The selected candidate will also be required to teach History of the U.S.A.

6. Lecturer in Anthropology : One post (Permanent). Specialisation : Prehistoric Archaeology. Preferably having research experience in Ethno Archaeology.

7. Lecturer in Anthropology : One post (Permanent). Specialisation: Social/Applied Anthropology, having field experience in Applied Anthropology/Social works.

8. Lecturer in Geology : One post (Permanent). Specialisation : Petroleum Geology.

Scales of Pay :

1. Professor - Rs. 1500-60-1800-100-2000-125-2-2500,-.

2. Reader - Rs. 1200-50-1300-60-1900,-.

3. Lecturer - Rs. 700-40-1100-50-1600,-.

All posts carry usual allowances admissible under University rules in force from time to time.

Essential Qualifications

Professor : An eminent scholar with published work of high quality actively engaged in research. Ten Years' experience of teaching and/or research. Experience of guiding research at Doctoral level.

OR

An outstanding scholar with established reputation who has made significant contribution to knowledge.

Reader : Good academic record with a doctoral degree or equivalent published work. Evidence of being actively engaged in (i) research or (ii) innovation in teaching methods or (iii) production of teaching materials.

About five years' experience of teaching and/or research provided that atleast three of these years were as Lecturer or in an

equivalent position. This condition may be relaxed in the case of candidates with outstanding research work.

Lecturer : (a) A Doctor's degree or research work of an equally high standard, and (h) Good academic record with at least Second Class (C in the seven point scale). Master's degree in relevant subject from an Indian University or an equivalent degree from a foreign University. Having regard to the need for developing interdisciplinary programmes, the degree in (a) and (b) above may be in relevant subjects.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent research work is not available or is not considered suitable, a person possessing a good academic record (weightage being given to M.Phil. or equivalent degree or research work of quality) may be appointed provided he has done research work for atleast two years or has practical experience in a research Laboratory/Organisation on the condition that he will have to obtain a Doctor's degree or give evidence of research of high standard within eight years of his appointment, failing which he will not be able to earn future increments until he fulfills these requirements.

Procedure of Submission of Applications

Applications in prescribed Form mentioned below in 7 (seven) copies together with an application fee of Rs. 20/- (Rupees twenty) and Rs. 10/- (Rupees ten) in case of Scheduled Caste/Scheduled Tribe candidates only by "CROSSED INDIAN POSTAL ORDERS" drawn in favour of the Registrar, Gauhati University payable at Gauhati-781014 post office should be sent in an inner sealed cover superscribed application for the post of (Name of the post applied for with Sl. No.) Advt. No. 11 of 1986 enclosed in an outer cover addressed to the Registrar, Gauhati University, Gauhati-14.

Last Date of Receipt of Application

Applications will be received upto 31st Dec. 1986, only. Applications received after the last date of submission and not submitted in prescribed form mentioned above in 7 (seven) copies will not be entertained.

No. of this advertisement and name of the post along with the serial No. of post must be referred to in the application.

PREScribed FORM FOR APPLICATIONS

1. Advertisement No. :
2. Serial No. of the post in the Advertisement :
3. Name of the post applied for :
4. Name of the applicant in full (in block letters) :
5. Father's name in full :
6. Home Address in full :
7. Present address in full :
8. Date of birth by Christian era :
9. Age on the date of application :
10. Nationality :
11. Community (Scheduled Caste/Tribes) :
12. Educational Qualification :

Examination passed	Name of Board/ University.	Yr. of passing	Divs./ Class	P.C. of Marks	Rank if any
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H.S.L.C.
H.S/P.U.
B.A./B.Sc./B. Com./LL.B.
M.A./M.Sc./M.Com./MBA
Ph.D./M.Phil./M.Litt.

Specialisation in M.A., M.Sc., M.Com. Degree :
Title of the Ph.D. dissertation :

N.B. : Attested copies of marksheets and Certificates of all examinations passed should be enclosed with all seven copies of applications.

13. Past experience if any
14. Research Publications (give details in separate sheets of papers).
15. Present Occupation if any
16. Name of employer (if employed)
17. Basic pay drawn
18. Name of Two referees (not related to the candidate)

I beg to certify that the particulars furnished above are true in all respects. I shall be liable to action at any time if found otherwise.

Signature of the Applicant.

Persons in employment should apply with a no objection certificate from the present employer.

Interview :

Candidates will be required to appear at an interview if and when called for at their own cost.

Canvassing directly or indirectly will be a disqualification.

REGISTRAR

UNIVERSITY OF RAJASTHAN

JAIPUR

Recruitment Notification Advertisement No. Estt/II/86/X

Dated : 4-12-86

Applications are invited (through proper channel in case of those who are already in employment) so as to reach this office on or before 5th Jan., 1987 in the prescribed form obtainable from the Registrar's Office on pre-payment of Rs. 4/- (Rs. 4/- extra in case required by post) for the following posts:-

1. TRAINED ELECTRONIC MECHANIC - I (in the Deptt. of Physics on the lien vacancy).

Scale of Pay: Rs. 740-20-900-25-1000-30-1300-40-1420.

2. SECTION CUTTER - 1 (for Deptt. of Geology, Jaipur).

Scale of Pay : Rs. 490-10-550-15-640-20-840.

Notes

1. Details of qualification etc. will be made available with application form.
2. Number of posts indicated above may be altered by the University without notice.
3. Retired persons need not apply.
4. Incomplete applications and/or applications received on plain paper and/or after 5th Jan., 1987 will not be entertained in any case (Certificates/Documents will not be entertained after submitting the applications).
5. Dearness and other allowances are admissible as per Univ. rules.
6. Candidates will be called for interview at their own expenses.
7. Those candidates who have already applied for the above posts in response to the Advt. No. Estt/II/86/VIII dated 8-10-86 need not apply again. They should simply send an information to this effect.

REGISTRAR

OSMANIA UNIVERSITY
HYDERABAD-500 007 (AP)

Advertisement No. 10/86

Dated : 12-12-1986

Applications in the prescribed form together with the Registration fee of Rs. 5/- payable through IPO/Demand Draft only drawn in favour of the Registrar, O.U. are invited for the post of LECTURER IN COMPUTER SCIENCE AND ENGINEERING in the University service so as to reach the undersigned on or before 5th January, 1987.

Qualifications

- (i) Master's Degree in appropriate field in Engineering/Technology.
- (ii) Consistently good academic record with a Bachelor's Degree in Engineering/Technology. First class at Bachelor's Degree and/or Master's Degree level.
- (iii) Having regard to the requirements of emerging fields of Engineering and of developing inter-disciplinary Programme, the requirements of Engineering/Technology Degrees

may be waived in the case of otherwise qualified candidates.

Note: (1) In case candidates with M.E. qualifications are not available, or M.E./M. Tech. candidates are not found suitable for appointment, the essential qualifications may be relaxed and first class Engineering graduates, be considered for the post of Lecturer, subject to the condition that the candidates concerned shall have to obtain M.E./M. Tech. Degree within a period of five years failing which they shall not be entitled to draw further increments.

- (2) The candidates who are going to acquire B.E. (ECE), B.E. (Computer Science) and M. Tech. (Computer Science and Engineering) may also apply.

Scale of Pay : Rs. 700-40-1100-50-1600.

Age : Not above 35 years.

Note: (i) Age limit does not apply to the employees of this University.

(ii) Relaxation in age to the extent of five years shall be granted to the candidates belonging to SCs, STs and BCs.

(iii) 14%, 4% and 25% reservations are made for the candidates belonging to SCs, STs, and BCs respectively.

Application forms can be had from the Director, Department of Publications and Press, Osmania University, Hyderabad-500 007 on payment of Rs. 4.50 in person or by IPO/Demand Draft together with postal charges for ordinary/registered post made payable to the Director and by sending a self-addressed envelope of 14½ x 26½ Cms.

REGISTRAR

BANARAS HINDU UNIVERSITY

Corrigendum to Advertisement No. 7/1986-87—Item No. 6 Published in 'University News' dated November 23, 1986.

The number of vacancies for the post of Lecturer in Geography (Item No. 6), Faculty of Science may be read as two instead of one.

UNIVERSITY OF RAJASTHAN
JAIPUR

RECRUITMENT NOTIFICATION

Advertisement No. ESTT/II/86/XI

Dated: 8-12-86

Applications are invited (through proper channel in case of those who are already in employment) so as to reach this office on or before 7th Jan., 1987 in the prescribed form obtainable from the Registrar's Office on prepayment of Rs. 4/- (Rs. 4/- extra in case required by post) for the following posts :—

1. **Controller of Examinations**—1 Scale of pay : Rs. 1600-50-1800-60-2100-75-2325.
2. **Editor Index India**—1 In the UGC pay Scale of Rs. 1500-60-1800-100-2000.
3. **Public Relations Officer**—1 Scale of pay : Rs. 1000-30-1300-40-1500-50-1800-60-1860.
4. **Assistant Librarian**—1 UGC Pay Scale of Rs. 700-40-1100-50-1300 which is likely to be revised to Rs. 700-40-1100-50-1600.

- Notes:**
- (i) Details of qualifications etc. will be made available with application forms.
 - (ii) Number of posts indicated above may be altered by the University without notice.
 - (iii) Retired persons need not apply.
 - (iv) Incomplete applications and/or applications received on plain paper and/or after 7th Jan., 1987 will not be entertained in any case.
 - (v) Dearness and other allowances are admissible as per University rules.
 - (vi) Candidates will be called for interview at their own expenses.

REGISTRAR

SOUTH GUJARAT UNIVERSITY

UDHNA MAGDALLA ROAD, SURAT-395007

Applications are invited in the prescribed forms (in eight copies) for the following teaching posts on the Post-Graduate Department of the University.

Sl. No.	Department	Posts
1.	Economics	*Two Lecturers
2.	English	*One Lecturer
3.	Chemistry	*(i) One Lecturer (Analytical Chemistry) *(ii) One Lecturer (Inorganic Chemistry)
4.	Business and Industrial Management	*Two Lecturer
5.	Physics	(i) One Reader Electronics (Technology Qualified); Theoretical Physics *(ii) One Lecturer (Theoretical Physics) *(iii) One Lecturer (Computer Science/Theoretical Physics) *(iv) One Lecturer (Expt. Solid State Physics)
6.	Public Administration	(i) One Reader *(ii) One Lecturer
7.	Linguistics	**Two Lecturers
8.	Mathematics	(i) One Professor (ii) One Reader *(iii) One Lecturer
9.	Statistics	**Two Lecturers
10.	Rural Studies	One Reader (in Rural Sociology)
11.	Department of Continuing Education & Extension Work.	*One Project Officer (Temporary post)

Note: *These posts of Lecturers are reserved for Scheduled Caste/Tribe, other Backward Class (Bak Punch) of Gujarat State and only candidates belonging to these Classes need apply.

**These posts of Lecturers are reserved for Scheduled Caste Tribes and other Backward Classes but if suitable candidates are not available, they will be filled by any qualified candidates from any class/caste.

Pay Scale for the above Posts are as Under

(1) Professor : Rs. 1500-60-1800-100-2000-125/2-2500.

(2) Reader : Rs. 1200-50-1300-60-1600-Assessment 60-1900.

(3) Lecturer/Project Officer : Rs. 700-40-1100-50-1300-Assessment - 50-1600.

In addition to pay, the permanent teachers of the University Departments are

INDIAN INSTITUTE OF TECHNOLOGY

P.O. I.I.T., Powai, Bombay-400 076

Advertisement No. C-93/86

Applications are invited for the permanent post of ASSISTANT LIBRARIAN in the CENTRAL LIBRARY of the Institute, in the prescribed form obtainable free of charge from the Registrar, Indian Institute of Technology, P.O. IIT, Powai, Bombay - 400 076 on request accompanied by a self-addressed envelope (25cm x 10 cm). Persons employed in Govt/ Semi-Govt. Organisations or Educational Institutions must apply through proper channel. The post carries allowances such as D.A., C.C.A., H.R.A., as per rules of the Institute which at present correspond to those applicable to the Central Government Employees stationed at Bombay. Completed applications should reach the Registrar, IIT, Powai, Bombay-76 on or before 20th January, 1987.

The post is reserved for the candidates belonging to SC/ST communities. If no SC/ST candidate is found suitable, the post may be filled by recruiting a general candidate. The applicants should preferably be below 40 years of age.

Assistant Librarian : Scale of Pay : Rs. 700-40-1100-50-1600.

Total emoluments on the minimum of the Scale :

On basic pay of Rs. 700/- : Rs. 2123.98 (including H.R.A.)

Rs. 1974.35 (excluding H.R.A.).

Qualifications

(a) Good academic record with at least a high second class Master's degree in a subject other than Library Science.

(b) Master's degree in Library Science with first or high second class.

Experience

At least 7 years experience in a responsible capacity in a University level Library. Should be well-versed with various activities of an Academic Library, such as procurement and processing of books and periodicals, circulation systems, providing assistance to the readers, supervision of special collections, maintenance of Library materials, reprography, binding unit etc. and providing assistance in general Library administration. Experience and knowledge of modern information handling tools will be an added qualification. Knowledge of any foreign language such as German, French or Russian is desirable.

Selected candidates will have to attend night/shift duties.

G.A. Desai
REGISTRAR

REGISTRAR

BHARATHIDASAN UNIVERSITY

TIRUCHIRAPALLI-620 024

Notification

Applications are invited from persons qualified in the National Level Test conducted by the University Grants Commission, who have secured a first or second class Master's degree, for the award of JUNIOR RESEARCH FELLOWSHIP to undertake advanced study and research leading to Ph.D. degree in the following fields in the University Departments.

Sr. No.	Department	Area of research/specialisation
1.	BOTANY	Plant embryology/Plant anatomy/Cytogenetics & Breeding/Plant Physiology and Biochemistry/Microbiology.
2.	CHEMISTRY	Physical and Synthetic Organic Chemistry/Natural Products Chemistry/Bioinorganic Chemistry/Organometallic Chemistry/Photo Chemistry/Polymer Chemistry.
3.	ECONOMICS	Industrial Economics/Developmental Economics/Legal Economics.
4.	ENGLISH	Comparative Literature (British and Tamil) Language Teaching/20th Century American Literature Commonwealth Literature/Indian Writing in English.
5.	MATHEMATICS	Analysis/Algebra Topology, their inter-related topics and applications including mathematical and Computer programming and numerical techniques.
6.	PHYSICS	Biophysics (Theoretical & Experimental) Theoretical Physics Nonlinear Dynamics/Molecular Spectroscopy. Plasma Physics/Crystallography.

The value of Junior Research Fellowship is Rs. 1000/- per month with an annual contingency grant of Rs. 3000/- in the case of Humanities and Social Science subjects and Rs. 5000/- in the case of Science subjects. The fellow who completes two years of research as Junior Research Fellow will be eligible for Rs. 1200/- p.m. after a rigorous evaluation of his/her work. The application form and other details

for award of Junior Research Fellowships can be had from the undersigned either in person or by post on a written requisition made by the individual. The last date for receipt of the filled in application (in duplicate) is 5-1-1987.

The filled in applications received after the date prescribed above will not be entertained.

REGISTRAR

PANJAB UNIVERSITY
CHANDIGARH
 (Advertisement No. 11/86)

Applications are invited for the following posts so as to reach the Registrar, Panjab University, Chandigarh, alongwith postal orders of Rs. 10/- by 12-1-1987. Fourteen days extra time is permissible to persons who have to submit their applications from abroad.

1. Professors : (Rs. 1500-60-1800-100-2000-125-2-2500).

Zoology - 1 (Cell Biology), Chemical Engineering and Technology-2, (Chemical Engineering), Physics-2, Anthropology-1 (temporary-leave vacancy), Statistics-1.

2. Readers : (Rs. 1200-50-1300-60-1900).

Chemistry - 4 (Physical Chemistry-2 out of which one is temporary, but likely to be permanent, Physical Inorganic Chemistry-1, Inorganic Chemistry-1), Zoology-4 (Protozoology-1, Fish Biology-1, Cell Biology-1 and Parasitology/Fish and

Fisheries-1), Physics-1 (Nuclear Spectroscopy), Anthropology-1, Statistics-1.
 3. Lecturers (Rs. 700-40-1100-50-1100) Chemistry-1 (Organic Chemistry), Fish-1 (Directorate of Correspondence Courses), Centre for Computer Science and Applications-1.

4. Research Assistant : (Rs. 550-20-25-750).

Statistics-1.

5. Research Associates

I. Physics-3 (Rs. 1400-1600 p.m. fix)

II. Physics - 1 (Bubble Chamber Programme) (Rs. 1400-2000 p.m. fixed).

III. Zoology-4 (Rs. 1400-2000 p.m. fix)

IV. Pharmaceutical Sciences (1 1400-2000 p.m. fixed).

6. Senior Research Fellows : (@Rs. 120 p.m. fixed).

Pharmaceutical Sciences-2

7. Research Fellow : (@Rs. 950/- p.m. fixed).

Statistics-1.

8. Research Scholar : (@Rs. 800 p.m. fixed). Zoology-1.

Note: 1. The candidates who had applied for the posts of Professor and Reader in Anthropology in response to advertisement No. 6-85 need not apply again. Their applications will be considered.

2. The Vice-Chancellor could place before the Selection Committee names of suitable persons for its consideration with the applications received in response to the advertisement.

3. It is not obligatory on the part of the University to call interview every candidate who possesses the essential qualifications.

4. The number of vacancies may change.

Detailed instructions, special provisions, allocations and reservations concerning the various posts and other are available with the application. These can be obtained from the Registrar, Panjab University, Chandigarh on payment of Rs. 2/- or by a written request to the Deputy Registrar (Estt.), Panjab University, Chandigarh accompanied by self-addressed envelope of 2 cms and postal order of Rs. 2/- in favour of the Registrar, Panjab University, Chandigarh.

